Lettsomian Lectures
ON
SYPHILITIC AFFECTIONS OF THE NERVOUS SYSTEM.

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LECTURE II.

SYPHILITIC AFFECTIONS OF THE SPINAL CORD.

GENTLEMEN,—In my last lecture I considered the various features of syphilis which will bear on the consideration of this disease as it affects the nervous system, and more especially the nature of the morbid changes to which it gives rise, and the habits of locality and rate of progress of the morbid processes. It remains now for me to apply the general conclusions there given, and to trace the effects of syphilitic lesions in the different nerve centres.

I showed and illustrated by a few cases the results when individual nerves or groups of nerves were involved. I did not attempt to distinguish between syphilitic neuralgia and neuralgia arising from other causes, and, so far as I am aware, no distinction exists, and the syphilitic origin is ascertained only by the syphilitic history.

In paralysis of individual nerves it is already a feature suggestive of a syphilitic source when it is made out that the cause of the paralysis lies within the cranial or spinal cavity and outside the nerve centre, since tumours, which are almost the only other cause of such localised effects, rarely arise in the membranes.

Paralysis of the third nerve is so commonly a result of syphilitic disease about the base of the brain that this is the first supposition which arises when a case presents itself, and it requires elimination before other hypotheses are entertained. The same might be said of the other cranial nerves, except the seventh; and when more than one cranial nerve is affected the presumption of syphilis increases. Corroborative evidence, if not at once yielded by history or coexisting lesions, would be sought in evidence of the constitutional condition produced by syphilis and in nocturnal pains. But I must proceed to the part of my subject which will engage our attention this evening—viz., the Syphilitic Affections of the Spinal Cord.

The range of symptoms producible by disease of the cord is not very wide. The tendency of most is to paraplegia; and to understand this we have only to remember that in some parts the cord is not thicker than the little finger, and that consequently a limited area of inflammation or a small tumour might involve a complete segment, which is all that is required to cut off the parts below from the volitional centres in the brain, and produce this form of paralysis.

Paraplegia is rather common as a result of syphilis (Bazin says that two-thirds of the cases are syphilitic), and if taken early and treated energetically it is usually curable. It is therefore very desirable that, if possible, distinguishing features of syphilitic paraplegia should be pointed out.

It has been given as one of the characters of syphilitic paralysis generally, and of syphilitic paraplegia, that sensation is usually not impaired, and that reflex action persists; but this, if it were true as a matter of fact, which I shall show is not the case, would not constitute a peculiarity. It is the rule in any form of disease of the nervous system, that the motor functions are more easily affected than the sensory. Even in nerves in which motor and sensory fibres are mixed up together, an injury, such as pressure, may destroy for some time the conductibility for motor impulses, while the only effect on the sensory functions is a temporary dysæsthesia. In experimenting on the cord this difference has been found to be even more marked: division of the white fibres constituting the motor tract being followed by distinct and definite motor paralysis; while in the case of the central grey matter, which is the channel for sensations, a slight bridge suffices to convey upwards the sensory impressions, and while there is any continuity of grey matter anæsthesia is not produced. It is again the rule in hemiplegia from cerebral lesion that motion is more frequently and persistently impaired than sensation.

It is not in individual symptoms, or in any arbitrary and unexplained difference in the phenomena, that we shall find the distinctive characters of syphilitic affections of any part of the nervous system, but in a comprehensive view of all the facts of the case.

It will not occupy much time, and will conduce to clearness, if I enumerate the principal diseases which affect the cord, with their leading characters.

Myelitis—inflammation of the substance of the cord, if general, gives rise to a progressive loss of motor power from below upwards, with loss of sensation, preceded by tingling, the rectum and bladder and their sphincters sharing in the paralysis. There is little pain, at most a dull aching. Reflex action is abolished, and death occurs when the inflammation extends to the respiratory centres. Bedsores come on early.

A local myelitis, involving a segment of the cord, causes paralysis of the parts below, motor and sensory (or motor only for a time), with loss of control over the evacuations. Reflex action will persist, and may be exaggerated from concentration on the motor cells of the anterior nerve-roots of impressions which normally would have been partly transmitted upwards to the brain, and the paralysed limbs often start involuntarily. If there be pain it is usually due, not to the myelitis, but to some extraneous cause—as, for example, disease of the vertebræ.

Spinal meningitis is attended with pain both along the spine and in the limbs, provoked by movements, especially such as involve motion of the spinal column. There are painful startings, or tonic contractions of the limbs or muscles of the trunk, and sometimes severe tetanoid spasms; sensibility is usually intensified. Paraplegia comes on late, and gradually if at all. There is loss of power in the bladder; not usually in the rectum.

Spinal congestion, according to Dr. Radcliffe, gives rise to sudden incomplete paraplegia, varying in degree, without loss of sensation or of control over the evacuations, but attended with aching in the back and limbs; but there may be a rapidly-progressive fatal paraplegia which leaves only traces of congestion.

Other diseases are, sclerosis of the posterior columns and cornua, and of the anterior white columns and cornua, the former giving rise to locomotor ataxy, the latter to wasting palsy.

There may again be softening of the cord, which, if non-inflammatory, is not to be distinguished from local chronic myelitis; or it may be the seat of tumours.

Syphilis may give rise to myelitis or meningitis, or to the small gummata or local scleroses described by Dr. Moxon; but, before speaking of these, the question of the dependence of locomotor ataxy on syphilis may be considered.

It has been stated that locomotor ataxy is a form of disease often set up in the cord by syphilis, but I find no support for this view in recorded cases, or in my own experience; and it is not the habit of syphilitic disease to follow in its advance any functional or structural arrangement in the part affected, or confine itself to a particular vascular area. I have had under observation for a long time a woman suffering from ataxy, which I attribute to an attack of meningitis along the posterior aspect of the cord, possibly syphilitic; and it is easily conceivable that in multiple syphilitic deposits in the cord, a sufficient number might be situate in the course of the posterior white columns and grey matter to impair spinal co-ordination, but it is not probable that degeneration or sclerosis of a considerable length of the posterior columns invading other parts of the cord reluctantly, so to speak, will be due to syphilis.

So far as I know, there is still less reason to attribute atrophic paralysis to syphilis than locomotor ataxy.

Coming now to myelitis,—the form most frequently seen in syphilis is subacute or chronic inflammation of a segment of the cord; but, in my opinion, acute general or local myelitis may be caused by syphilis, especially in the secondary stage. This is a point which cannot easily be proved. There is nothing peculiar in acute myelitis to indicate its cause; and, the disease being rare, it must be long before a sufficient number of cases can be collected in

which it is associated with syphilis, even by observers alive to the possibility; while in the secondary stage a post-mortem diagnosis cannot be made so readily as in the tertiary period of the disease.

In 1859 I saw, in quick succession, two cases—one in the Hôpital du Midi under Ricord, the other under Trousseau in the Hôtel Dieu—of rapidly progressing paraplegia terminating fatally. In both there was general and advanced inflammation and softening of the spinal cord. Both the patients were young, and suffering from secondary syphilis in an early stage. Ricord, with characteristic caution, refused to pronounce the myelitis syphilitic, though it was not the first case of the kind he had seen in his wards. Trousseau was more disposed to consider syphilis as the cause of the inflammation.

Of acute local myelitis I give a case in which also the disease of the cord came on in the secondary period.

Paraplegia in secondary syphilis; acute myelitis of a segment of cord just above the lumbar enlargement; death from ulceration of bladder and extravasation of urine.—A warehouseman, aged twenty-eight, was admitted under my care at St. Mary's Hospital, February 23rd, 1872. His habits had been loose and irregular; he had had sores on the penis twice, eighteen months and twelve months before his admission, and had suffered from sore-throat and fissures in the palms of the hands. The inguinal glands were enlarged and matted together. It could not be made out which of the ulcers had given rise to the syphilis. Eighteen days before he entered the hospital he had stiffness in the right knee, next day in the left; no pain. Afterwards pain came on in the lower limbs above and below the knees, with numbness, and as he walked he did not feel his feet when put to the ground, so that he tottered; a sensation also of pins and needles came in the feet. Three days after the accession of the symptoms he was compelled to remain in-doors, next day to remain in bed, and on the day following, five days from the commencement of the illness, the sphincters were relaxed. He did not feel ill, but was thirsty. He had been taking warm baths with mustard. On admission he was pale, but the expression was natural. The pupils were large. He complained only of the loss of power and sensation in the lower limbs. The legs were absolutely powerless, and sensation was lost in them except at the inner side of the thigh (obturator area), the insensibility extending on the abdomen nearly as high as the umbilicus. Reflex action was vigorous, and the legs were constantly kicking of themselves. There was incontinence of urine and fæces, and small sores were seen on the sacrum and trochanters. Tenderness on pressure and percussion was found to be present over the three lower lumbar spines, but not in the skin here or round the abdomen at the same level. Tongue moist, but coated; pulse 90, full; temperature 98·4°, both in groin and axilla, though the legs felt warmer to the hand. Urine turbid and ammoniacal. The treatment ordered was as follows: iodide of potassium in doses of six grains; catheterism twice a day; protection of the abraded points by cotton wool; a free supply of milk and beef-tea. On the 28th he said sensation was more distinct over the inner aspect of the thigh, and a pinch was felt at any part of the limb above the knee. The dose of iodide was increased to nine grains. On March 2nd the patient was feverish, and had no appetite. Temperature 101°. On the 4th he complained of sore-throat, and the tonsils and soft palate were seen to be inflamed and swollen; there was blood as well as pus in the urine, which was still ammoniacal. On the 7th the tonsillitis had subsided, but the temperature remained at about 100°, the same point as during the previous four days, and the thirst was excessive. The bladder was washed out with weak carbolic-acid lotion, as well as emptied. The fever continued, and on the 9th was rather higher, the temperature being 101° in the axilla and 101·5° in the groin; but he said he had better sensation in the legs, and he had begun to feel the catheter for the first time. He was, however, weaker; and bark and acid were substituted for the iodide of potassium; wine also was given. On the 10th symptoms of perforation of the bladder set in, rigors, sickness, severe pain in the abdomen, paroxysms of violent contraction of the abdominal muscles, and great exhaustion. On the 11th the face was expressive of collapse, the abdomen was tender, and the muscles were easily thrown into a state of rigid tension; there were no abdominal respiratory movements; no urine could be obtained. Death took place on the 12th. On post-mortem examination, fourteen hours after death, there was a remarkable amount of post-mortem staining. In the abdomen the effects of general peritonitis were seen, and in the bladder a large ragged ulcer near the neck, which had penetrated the coat, and allowed the urine to be extravasated. The liver was large, pale, and fatty; the kidneys healthy; the lumbar, mesenteric, and inguinal glands were large; a little old tubercle in the lungs; heart healthy. In the cord, about two inches and a half from its lower extremity, just above the lumbar enlargement, was a softened portion about half an inch in length. Above this part the cord was firm, and the vessels were of the usual size; below it the cord was firm, but the entire posterior aspect was covered by enlarged and tortuous vessels.

The paraplegia generally produced by syphilis is the result of disease slowly invading a segment of the spinal cord.

The course of symptoms is such as might result either from a limited chronic myelitis, or from softening, or from tumour.

The age at which syphilitic paraplegia occurs—namely, in early adult life or early middle age—excludes degenerative non-inflammatory softening.

Embolic softening, so far as I know, only occurs in connexion with a very general distribution of emboli, as in acute fatal chorea or as in ulcerative endocarditis, when the effects produced elsewhere predominate.

The absence of angular spinal curvature and of the symptoms which disease of the bones or cartilages of the vertebral column produces before the cord is affected, excludes the most frequent cause of local myelitis not depending on syphilis, and we are left to decide from the history or from collateral circumstances between syphilis and rheumatism or exposure to wet and cold or injury.

In syphilis the condition present is probably a small gumma around which inflammatory softening is set up, and this explains the slow, halting, and unequal progress of the paralysis.

Conversely, paraplegia, at first slight, remaining long at a given point or advancing very slowly, then suddenly worse, mending a little again, perhaps spontaneously, or at least without specific treatment, but again increasing, and so pursuing its course to absolute loss of sensation and motion, while reflex action persists, should excite a suspicion of syphilitic mischief and should lead to energetic treatment, whether corroborative evidence is forthcoming or not.

While it was still uncertain whether syphilis could give rise to disease of the nervous system, and the purpose of inquiry was to establish a fact in medical science, no caution could be too great in accepting evidence on the point; but the fact of causation once established, we are justified in going in advance of positive knowledge in our treatment.

Paraplegia, probably from a syphilitic nodule in the middle dorsal region of the spinal cord.—Ann F——, aged forty-one, a widow, was under my care in St. Mary's Hospital from July 24th to Dec. 2nd, 1872. She had been married eleven years, had had two early miscarriages, but no living children. There was no history of syphilitic symptoms, but one iris was bound down by adhesions. Her husband died early in 1871 from an illness which I venture to pronounce syphilitic affection of the brain. In June, 1870, while in apparent health, he had an attack of convulsions, which was attributed to sunstroke, though he was at work under cover. After this attack he was never himself; he had frequent fits, and his mind became affected; at times, also, he lost the use of his limbs. He died in an asylum nine months after the first attack. The patient had for three months been losing the use of her legs. First the right failed; then this seemed to recover somewhat, and the left became affected. The weakness increased till she could scarcely get about; the bowels were confined, and the urine was not passed readily. On testing the power of the limbs as she lay in bed, the right leg was fairly strong; but the flexors at the back of the left thigh were almost powerless; the extensors of the knee still retained a good degree of strength. I may note, in passing, that in partial paraplegia the flexors are usually affected more early and more severely than the extensors of the knee. The ankle was fixed and immovable, the foot arched, and the great toe turned in. No loss of sensation anywhere. When the patient tried to walk, the

difficulty was greater than the degree of paralysis led me to expect; she could scarcely walk alone, and was very awkward and clumsy; the left foot shot out uncontrollably. She could stand as steadily with the eyes closed as when they were open. Iodide of potassium was given in doses of four grains, and the continuous galvanic current was ordered. The case appeared to be slight, and I hoped for much from rest in bed and treatment. She had, however, come under observation at a moment when the disease was in active progress; and a few days later the legs were absolutely powerless, and sensation was lost, this aggravation of the symptoms having come on rather rapidly. She had fallen helplessly in trying to get out of bed when unaware of the increased weakness. I found her on Aug. 7th quite unable to move either leg, but the limbs were not flaccid and soft, and when handled and tested they were firm and rather stiff from involuntary resistance of the muscles; and it was ascertained on inquiry that, before she had so completely lost power in them, they became rigid when the feet touched the ground. Reflex action took place when the soles were tickled; but it was not vigorous. There was violent involuntary starting of the lower extremities, both during sleep and while awake. The difficulty of sitting up was peculiar. As soon as she made the attempt, aiding herself with her hands, the legs contracted and resisted, and it was only after a severe effort that she succeeded, the lower extremities jerking all the time. Sensation, which was severely tested, was almost totally lost, on the right side as high as the lower edge of the ribs, on the left up to the level of the mamma, but there was an imperfect kind of consciousness of the contact with the soles of the feet when they were tickled. The bowels were confined; there was less complaint of difficulty in passing water, because of the loss of sensation, but the urine was retained, and the catheter was required. The dose of iodide of potassium was increased to twelve grains, first three times a day, then every four hours. The galvanism was discontinued. In the course of a few days sensation began to return, first in the left side in which the anæsthesia had extended highest, and the recovery was general in the extremity and abdomen, and not progressive; while on the right side the return was at first progressive from above downwards. It was further noted that while the difference in the degree of sensation on the two sides existed, reflex action was more vigorous in the limb in which sensation was most impaired. On August 13th she had more control over the evacuations, and she thought there was some return of sensation and power in the legs. She was still much troubled by the contraction of the legs at night, which was accompanied by cramp-like pains, and disturbed her sleep.—17th: Less starting of the limbs during sleep, and the feet could be distinctly moved. Sensation returning. The difficulty in sitting up in bed was as great as ever. Immediately on the attempt being made, the muscles of the lower extremities contracted, drawing up the knees, which had to be forcibly pressed down before she could raise the body. This was an interesting phenomenon in relation to the functional mechanism of the spinal cord, and it contributed to the formation of a diagnosis. The urine was now passed naturally. The improvement continued up to August 31st. The startings had ceased, the toes and legs could be moved, and sensation was returning. Cod-liver oil and iron were now ordered, and by mistake the iodide was suspended. A general relapse occurred, sensation and power were again completely lost, and the painful nocturnal starting returned. I was out of town at the time, and a week elapsed before it was known she was not taking the iodide of potassium. It was ordered in doses of fifteen grains three times a day on September 7th, and blisters were applied, upon which, in a few days, amendment set in. I found her on September 25th a little better than when I left town at the end of August. The iodide of potassium was increased to twenty-four grains, and one-sixteenth of a grain of biniodide of mercury was given with quinine and extract of hop in a pill at night. From this time the improvement was continuous. A curious fact, observed for some time while sensation was still imperfect, was, that a sharp pain could be excited in the left side by pricking a particular part of the leg of the same side near the knee. On October 12th faradisation was ordered. On October 23rd the patient was able to stand by supporting herself with a chair; on November 1st to walk with assistance; and on the 12th for a few steps alone. She was kept in the hospital till she could walk well, and she continued for some time after she left on December 2nd to take the iodide in doses which, on February 15th, had been gradually brought down to twelve grains three times a day. She was then walking without perceptible halt and with great vigour, and, so far as I know, continues well.

Another case, strikingly similar even in details, was under my care from March 28th to Aug. 9th, 1873. The patient, a domestic servant, aged twenty-nine, had been suffering for four months from loss of power and sensation in the lower extremities, which had come on with pain in the back. She was unmarried, and I could obtain no evidence of syphilis, direct or indirect, but she had the peculiar sallow pallor which so often accompanies the later stages of the disease. I took this as sufficient warrant for the treatment I adopted; but I should not have considered myself justified in bringing the case before you as one of syphilitic disease of the spinal cord, had it not been that after the patient's recovery from paralysis, when suffering from a severe attack of pyrexia, she confessed to the sister of the ward that many years before she had had an illegitimate child, and had had some illness attributed to syphilis subsequently. The pain in the back experienced at the outset of the illness was situated in the lower dorsal and upper lumbar region; it extended round the abdomen and down the legs, especially when she walked or stood. It lasted about a fortnight, and then the loss of power which had been coming on became suddenly worse, so that she was unable to rise from her chair or to raise the limbs; sensation also was greatly impaired, and the feet and legs were very cold. When examined a few days after her admission she was unable to move either leg; sensation was greatly impaired in both extremities and over the lower part of the abdomen, but more on the right than on the left side. Reflex action was exaggerated, and the limbs jumped very much, especially during sleep. The catheter was required, and the bowels could only be relieved by means of enemata. The treatment consisted in the administration of iodide of potassium in gradually increasing doses, and the result was complete recovery. The catamenia were absent till near the end of her stay in hospital, and at one time, early in July, a profuse, purulent vaginal discharge came on. She was examined by Dr. Meadows, who found no abnormal condition of the uterus. Convalescence was for a few days interrupted by a sharp attack of pyrexia, not accounted for by any local inflammation. During this the temperature, habitually slightly below the normal standard, went up to 103·6° F. She walked out of the hospital on Aug. 9th.

Paraplegia; meningo-myelitis of lower extremity of cord; recovery.—The patient, a groom, aged forty-three, came under my care on Oct. 3rd, 1873, complaining of difficulty in holding his water and weakness of the legs, with pain in the back. He had begun to suffer from intermittent pain in the back after a fall eight or nine months previously, which was increased or brought on by walking, and lately had lost power in the legs, and had been unable to retain his urine. He had had syphilis twenty years before. It was found that the right leg was weaker than the left, the movements of this ankle being very imperfect, and flexion of the knee very feeble. The tests applied to ascertain the strength of the muscles gave pain. There was apparently cutaneous hyperæsthesia of the right leg. Reflex action was readily excited. He maintained the erect position with the eyes closed. A little pain was caused by percussion or pressure upon the last two lumbar vertebræ. There was at first improvement; less pain, more strength in the legs, and increasing control over the urine. On Oct. 17th, however, he felt cold and shivered, had great pain in both legs, especially at and below the knees, increased by movements. He was unable to walk. Pulse 120; temperature, previously rather below the normal, was now 100°. The pain became so severe, especially at night, that morphia injections were necessary, and the catheter was required on account of retention of urine. Later, the principal seat of pain was the left thigh, at first near the exit of the great sciatic nerve, but afterwards on the dorsum ilii and in the femur, in both of which situations it was found to be due to periostitis. The loss of power in the lower limbs did not increase, but the bladder continued to give trouble, and an abscess formed in or near the prostate, which for a time added to the patient's sufferings. The treatment consisted

in the administration of iodide of potassium and biniodide of mercury, together with the application of blisters on the seat of tenderness in the spine, and ultimately the patient recovered almost complete power in the legs and fair control over the urine.

The following case is one of unusual interest, there being great impairment of sensation, and exaggerated reflex action, with loss of control but not of power. It might easily be taken for locomotor ataxy, but differs essentially from this affection in its symptoms, and, as I believe, in pathology.

Sensory paraplegia; loss of control but not of power; exaggerated reflex action.—The patient, a cabman, aged thirty-four, married, but childless, was admitted into St. Mary's Hospital March 7th, 1873, for loss of power in the legs. He was a strong, stout, well-built man, with good colour, and large and firm muscles. He had, however, lost all his hair, not only from the scalp, but from the face, axilla, and pubes; the eyebrows and eyelashes also were gone. He had suffered from gonorrhœa ten years before, but had never had a sore on the penis; he had, however, had "measles," and a bad sore-throat fourteen years previously, which lasted three months, and ample evidence of syphilis was afforded by large ulcerations of unmistakable character on both legs. The weakness of the lower extremities had been coming on for twelve months; he began to drag first the left foot and then the right, and the knees and feet gradually became "numb." At times they would be a little better after being in bed, or after sitting on his cab; they were worse in warm weather. He had been under the care of my colleague, Dr. Lawson, as out-patient for two months before his admission, and had been faradised with apparent advantage. For three weeks, however, he had been unable to walk.

On first seeing him I told him to rise, so that I might have the opportunity of noting the degree of paralysis, and observing its character. He threw his legs off the bed without difficulty; but when the feet were put to the ground, and he endeavoured to stand, the attempt was completely defeated by violent spasmodic contraction of the legs, especially the right, which would have thrown him down had he not been caught and assisted back to bed. The movements continued for some time afterwards. He explained that he could stand and walk better with his stockings on than when the feet were bare, and still better in strong boots. The difficulty obviously arose from excessive reflex action, which was more violent when the feet were in direct contact with the floor. Lying in bed he could move every part of both lower extremities, and could resist forcibly any attempt to flex or extend any joint. The muscles were bulky and firm, and particularly well nourished. He had occasionally startings of the limbs at night. Sensation was greatly impaired in every part of the thighs and legs, whether tested by compasses or by pricking or pinching. The insensibility to heat was shown by the fact that he had large blisters on the soles of both feet, caused by a hot bottle which he had not felt. He had for three or four months had difficulty in micturition, had to wait some time before the flow began, and the urine came only in drops; it contained no albumen. Pulse and temperature normal. To complete the account of the symptoms, it need only be added that, when he was able to stand or walk, he could do so equally well with the eyes shut or open, and had no particular difficulty in turning. He stood steadily with his eyes closed when he could only walk with the aid of two sticks. In walking, the legs were not shot out or jerked up vaguely as in locomotor ataxy, but carried along stiffly and wide apart, the feet scraping the floor in consequence of want of flexibility in all the joints, which were kept rigid by tonic contraction of the muscles generally. The hand placed on the thigh or calf when he walked found them hard and firm like those of an athlete.

The phenomena of this case are worthy of study and discussion. They were clearly not those of the condition known as locomotor ataxy, although they would be covered by the term. The mode of progression, the power of standing with closed eyes, the absence of pains in the limbs, exclude at once sclerosis of the posterior columns of the cord, which is the morbid change giving rise to locomotor ataxy, and there are other differences of equal significance. I cannot fully convey to you the precise grounds on which I come to the conclusion at which I have arrived without reference to the functional mechanism of the spinal cord, as I understand it. The anterior grey columns consist demonstrably of the nuclei of the anterior or motor roots of the nerves fused together; the posterior grey columns in the same way of the nuclei of the posterior nerve roots (this is inferred rather than distinctly proved). The antero-lateral white columns are the downward channel for motor impulses from the corpus striatum to the motor nerve nuclei; the central grey matter is the channel for sensory impressions upwards from the posterior nerve nuclei to the thalamus; decussation of the fibres or cells constituting the sensory channel taking place one by one in the cord. Now, Brown-Séquard has shown that injury to the central grey matter will intercept sensory impressions without interfering with motor power, and this is exactly what had occurred in the case under consideration, and I concluded that a syphilitic tumour existed in the very axis of the cord. But the posterior and anterior nerve nuclei together constitute the apparatus for reflex action, and there is in the cord an independent power of co-ordination—that is, of orderly combination of muscular movements for a given purpose, the mechanism for which consists in the linking together of the nerve nuclei of different parts of the cord. It would have been difficult to say, *a priori*, whether such co-ordinating fibres would connect together anterior or posterior nerve nuclei; but it has been found experimentally that it is through the posterior nuclei that co-ordination is effected, the fibres which effect it running in the posterior white columns. I am of opinion, however, that there is an association of the anterior nerve nuclei of different segments, as I find no other explanation of the peculiar arrangement of the fibres of the anterior white columns, and I think it serves some such purpose as the combination of the action of one fore-leg with the hind-leg of the opposite side in dogs, such association explaining the fact that injury to the corpus striatum does not occasion hemiplegia in dogs. Let me, however, compare this case, in which I suppose a segment of the central grey matter to be damaged, with locomotor ataxy, in which the posterior white columns are affected. In both we have impairment of sensation, with comparatively little loss of motor power, but with loss of control. In locomotor ataxy there is destruction of the fibres in the posterior white columns, which convey the impressions from one part of the cord to another, and bring about the delicate adjusting movements which insensibly maintain the balance of the body, and the patient is unable to stand with the eyes closed. My patient stood perfectly well. The loss of balancing power, then, in locomotor ataxy, is not simply due to impaired sensation in the feet, as has been maintained by Dr. Allbutt. Again, in locomotor ataxy, motor impulses from the cerebrum for the act of walking arrive at certain nuclei in the lumbar swelling of the cord; in consequence of the disease in the posterior columns, these impulses are not diffused along them to the different segments of the cord which co-operate in the production of the harmonious movements of the limbs, but are concentrated upon the nuclei on which they impinge, throwing them into excessive and disorderly action and causing the jerky gait. This was not the case with my patient; but, on the contrary, the impressions received by the feet in contact with the floor, instead of being partly transmitted to the brain for the communication of sensation, were, in consequence of the interruption in the upward channel, concentrated upon the cord, but distributed to the different segments by the posterior columns, producing the excessive but co-ordinated reflex contraction of the muscles of the limbs, which restrained or restricted their obedience to the will.

A small tumour such as was indicated by the symptoms to be present in the axis of the cord was just the kind of change to which syphilis might give rise, and which scarcely any other disease would produce. This is one of the examples, then, in which the symptoms alone would almost warrant a diagnosis of syphilis, without any corroborative evidence.

The progress of the case was satisfactory. I began the administration of iodide of potassium in doses of ten grains, with carbonate of ammonia and sarsaparilla, carrying it eventually to twenty-five grains three times a day. In a few days the nocturnal startings were less troublesome, then sensation began to return, and he passed water better. He walked with the aid of two sticks on April 3rd, and on the 26th with only one, passing urine now quite readily; sensation also was much better, but not normal; the ulcers

on the legs had healed. About this time faradisation was ordered.

He left the hospital on May 2nd, after a stay of less than two months. On the 27th he drove a hansom to the Derby. He continued to take the iodide (fifteen grains) till July 24th, when tincture of iron with nux vomica was given instead. After a time he gradually lost power, and on Sept. 3rd had gone back considerably. The ulcers on the legs had also broken out again badly, and were extending. Iodide of potassium was therefore prescribed anew, and very shortly improvement again set in, which continues up to the present date. He is still faradised twice a week, as he thinks this does him good, and it aids in keeping him under observation. The relapse and improvement occurred independently of any change in this part of the treatment. He is now driving, against my advice, a four-wheel cab, and has to assist in lifting and carrying luggage.

I was not so successful in a somewhat similar case which was under my care for four months shortly before the case just related—namely, from Sept. 2nd, 1872, to Jan. 6th, 1873.

The patient was a coachman, aged thirty, who had had syphilis twelve months before he came to the hospital, and for seven months had been suffering from loss of power in the limbs, which had come on with pain in the loins. This at first had been induced by exertion, but had become constant, and the weakness was such that the patient could only walk by the aid of two sticks; his water dribbled, and the bowels would be confined for three or four days and then act suddenly without his control. His manner of walking was exactly that described in the previous case—the legs stiff and rather straddling, with all the muscles extremely firm, the joints unbending, the feet therefore scraping the ground. After walking there was frequently most violent agitation of the legs, but especially of the right, and he would sit on his bed trying in vain to control the movements, with both hands grasping the thigh. The patient had difficulty in standing with the feet together; tending to fall backwards, and when the eyes were closed he was still more unsteady on his legs.

In testing the muscles as he lay in bed it was seen that he could execute any movement, and the limbs were remarkably well nourished. He could resist flexion and extension of the ankle, but the muscles trembled; he resisted flexion of the knees powerfully, extension scarcely at all, the left leg being the stronger. The treatment was by iodide of potassium, and this failing to give marked results when carried to full doses, biniodide of mercury was given; blisters also were applied. He regained complete control over the bladder and rectum, and walked a little better, but needed two sticks, and the effort was usually followed by the violent shaking of the legs described; the amendment therefore was not sufficient to enable the patient to gain his livelihood.

Spinal meningitis is far less common than myelitis, and I have met with no acute case distinctly traceable to syphilis. A patient, however, was under my care in September last, suffering from severe pain in the back and limbs, made worse by movements, with feverishness, for which the cause assigned was a fall in which the back was injured. The fall, however, had happened a month before, and he had since worked at his trade without pain or inconvenience. An explanation of the pain soon appeared in an outbreak of syphilitic eruption, and it was removed by a mercurial course. I have now (Jan. 15th) in hospital a patient recovering from a subacute attack who had previously suffered from paraplegia, and whose case I have already given. She left the hospital well on Aug. 9th, and remained free from symptoms till when she began to suffer from "rheumatism," as she supposed. There was, however, no swelling of the joints or fever, and the pain was provoked by movements of the limbs or spine, and had the character of pain caused by spinal meningitis. She began also to lose power again in the lower extremities. The pains were at once relieved by iodide of potassium. One of the worst cases of syphilitic affection of the nervous system which I have seen, and which ultimately resulted in insanity, began with spinal meningitis. The patient was under the care of Mr. Walter Coulson, with whom I saw him, and the case is partly related in his treatise on Syphilis. When I first saw him, in August, 1866, he was complaining of rheumatism—obviously spinal meningitis—which completely crippled him. Every movement gave him pain, but especially the first efforts after being for a time in one position, so that it was distressing to watch him rise from a chair. He carried himself stiffly, was unable to stoop or to turn the head; in order to look round he had to turn the whole body. There had previously been tertiary manifestations, and the meningitis yielded to iodide of potassium, leaving the patient, however, with a stoop. To this was probably attributable also sexual impotence, from which he was found to suffer afterwards.

SYPHILITIC AFFECTIONS OF THE MEDULLA OBLONGATA AND PONS.

The intracranial prolongation of the spinal cord forming the medulla oblongata and pons Varolii is complicated in its structure and function, not only by the separation of the nerve nuclei from each other in accordance with the specialisation of their functions, but by the change in the relations of the grey matter and tracts of white fibres with each other, the decussation of the motor tracts, and the connexion of the cerebellum with the spinal axis which is here effected. The consequences of lesions here, therefore, are more varied, and the causes which may give rise to them are increased in number; these parts, for example, may be affected by disease in the cerebellum or by aneurism of the basilar artery. The increased dimensions of the spinal axis, moreover, permit of unilateral limitation of a morbid change; and this is not uncommon, although the two halves are fused together; while unilateral mischief is rarely seen in the cord, which is almost completely divided longitudinally by the fissures. Possibly, however, the vascular membrane which dips into the fissures is more efficient in communicating a morbid change than nervous structure. The general results of disease in the medulla and pons are, some interference with the sensory or motor tract proceeding from the cord to the sensori-motor ganglia, together with disturbances or abolition of the function of one or more of the nerve-nuclei. It is seldom that we can come to the conclusion that there is disease here from sensory or motor paralysis of the limbs alone, or from affections of the nerves which have their origin in the intracranial part of the spinal axis alone, although this may be done occasionally when two nerves are simultaneously paralysed the nuclei of which are conjoined or in close proximity, while the nerves take a different course after their emergence from the centre, as in the case of the sixth and seventh. The grouping of symptoms arising from the inclusion in a diseased area of several nerve nuclei may be very varied. Usually the symptoms afford the means of making a very precise localisation of the lesion by the application of anatomical and physiological knowledge. Of course disease here is attended with great danger to life, the slightest interference with the reflex centres of the respiratory or cardiac movements being fatal. Sudden death, therefore, is common. The nature of the morbid change will be arrived at by considerations such as those made use of in determining the probable cause of paraplegia. A slow but irregular progress of the affection will favour the hypothesis of syphilis, but the morbid changes resulting from syphilis do not specially affect the surface of the medulla and pons, according to Dr. Moxon's dictum, but rather the substance. The progressive labio-glosso-laryngeal paralysis, which is the counterpart of locomotor ataxy, is not syphilitic; but it is quite possible for syphilitic change to involve the same parts of the medulla and give rise to analogous or even identical symptoms. The course of the disease will, however, be different.

Paralysis (hemiplegic) of left face; lateral deviation of eyes to right; impairment of articulation and deglutition; loss of sensation in right face; sudden death; syphilitic tumours in pons and medulla.—William T——, aged forty-six, was admitted into St. Mary's Hospital, under my care, on August 4th, 1871. He had been a soldier, and had served twenty years in India, enjoying while there good health, but since his return, four years ago, he had suffered from his liver. He had syphilis in India. On his forearms and legs were numerous large scars, as of rupia; his complexion also was sallow, and his appearance that of syphilitic cachexia. On June 20th, while cutting grass at 10.30 A.M., the sun being rather powerful, he said the sun struck the left side of his face; he felt queer, did not fall, but had to go in-doors, and he was never able to work afterwards. Suffered from pain in the head, giddiness, double vision,

and a feeling of coldness down the right side. No vomiting. The face was drawn at the time, but had got worse since.

On admission there was marked loss of power on the *left* side of the face; the wrinkles were smoothed out; the mouth carried to the right; the distortion was always evident, but was worse when he opened the mouth or tried to show the upper teeth. *Both* eyes were closed in the usual winking movements; he could not close the left eye alone. The uvula was drawn to the right, and this side of the palatine arch was lower than the left. He complained of difficulty in masticating his food. This was referred to the *right* side of the mouth. (No note of condition of masseters and temporals.) Deglutition was embarrassed. The tongue was protruded straight, but his articulation was thick and indistinct, and the voice had a very nasal twang. There was no difficulty in the articulation of any particular letter as the alphabet was gone through. He had double vision, especially for distant objects, and a slight want of parallelism between the two eyes was evident. (In two different observations this was described as internal strabismus of the left eye, and that the right was carried too far outwards.) A more noteworthy fact, however, was that there was lateral deviation of both eyes to the right. He could not bring the left outwards at all beyond the median plane of the orbit; the right he could bring slightly to the inner side of the median plane, but very little. He said the right hand was dead, but there was no perceptible difference in power between the two hands when they were tested. He used the two legs equally well when in bed, but when made to walk he complained of giddiness, walked slowly, feebly, and unsteadily, staggering mostly to the right. He complained that when shaving the *right* side of the face felt like a board, while the left, in which the motor paralysis was present, felt natural; and it was found that a prick or pinch was much less felt on the right than on the left forehead, cheek, and chin. He said, also, that he felt less distinctly on the right than on the left forearm, but the difference, if real, was very slight. Smell and taste unimpaired, as also common sensation in tongue; a little deaf in left ear before attack. Continuous severe pain in head; sometimes all over, sometimes in occipital and frontal region, sometimes in right half. A singing noise also in head. Dozed rather than slept. Ophthalmoscopic signs negative. No albuminuria. No morbus cordis.

The diagnosis given was syphilitic tumour in the pons and medulla.

He remained in the hospital nearly three weeks, taking iodide of potassium in doses gradually increased from six to sixteen grains. The headache was greatly relieved; he walked better and with less staggering, and his articulation was better, but the motor paralysis on the left side of the face and the loss of sensation over the area of the right fifth remained, as did also the lateral deflection of the eyes.

He insisted on leaving the hospital on August 23rd. During the night of August 30th he got out of bed to smoke, and was found dead in his chair in the morning. The body was taken to the Marylebone Infirmary, where an inquest was held, and I unfortunately did not hear of his death till the examination had been made. I had the head reopened, however, and carefully reinspected the brain.

It was reported to me that the dura mater and arachnoid over the top of the hemispheres were adherent; the dura mater unduly vascular; the arachnoid opaque over the hemispheres, but not at the base. There was fluid in the ventricles, the parietes of which were soft, but apparently only by post-mortem change. The only other morbid appearance found was, that when an incision was made along the median line of the pons and medulla, two small tumours were seen near the floor of the fourth ventricle. They were described as yellow in colour, like a corpus luteum, and of firm consistence, and they slipped easily out of the cavities in which they were contained. I did not see the tumours, but in my re-examination of the parts I found one cavity which would have held a pea in the substance of the pons, near the floor of the fourth ventricle, the lower margin of the cavity being well within the lower edge of the pons, the upper not quite reaching the centre of the pons—it was near the median line. Below this, and separated from it by nervous substance, was another somewhat larger cavity in the substance of the medulla, also near the floor of the ventricle. This cavity had not such well-defined walls as the other. A careful examination of both crura of the hemispheres failed to reveal any other lesion.

There can be no doubt that the lower of these tumours was the cause of the dysphagia, and of the sudden death, as it was in close proximity with, and probably involved in a greater or less degree, the reflex centres for deglutition, respiration, and the cardiac movements, the nuclei of the glosso-pharyngeal and vagus nerves.

It is unfortunate that I am not able to speak more positively with regard to the absence of other lesions so as to be in a position to discuss more confidently the relation of the upper tumour to the motor paralysis of the left face and of the eyes, and of the loss of sensation in the area of the right trigeminus. If the paralysis of the face and eyes had been due to lesion in the facial nucleus or nerve, and in the sixth nucleus or nerve of the same side, there would have been no difficulty in recognising one or other of the tumours as the probable cause, by involving the common nucleus of the sixth and facial nerves. But both the facial and the ocular paralysis were such as are met with in hemiplegia, and not such as are seen in Bell's paralysis, on the one hand, and in lesion of the sixth nerve, on the other. The action of the left orbicularis oculi was not affected, and there was lateral deviation of both eyes to the right, and not simply internal strabismus of the left. The lesion, then, was either in the right corpus striatum or in the course of the fibres passing from the left facial and sixth nerve nuclei to the right corpus striatum, and almost certainly after their crossing to the right half of the pons.

I have not previously met with lateral deflection of the two eyes, except in hemiplegia, and usually in severe attacks. In my own experience it has commonly been associated with lesion of the anterior part of the corpus striatum externum, and accordingly I examined most carefully these ganglia, and the crura cerebri, but without finding any evidence of disease. I am inclined to consider the upper of the two tumours as the cause of the anæsthesia in the right side of the face by encroaching on the nucleus or fibres of origin of the right trigeminus, and of the left facial and ocular paralysis by cutting across the fibres between the common nucleus of these nerves and the right corpus striatum just as these fibres crossed the median line.

I am the more disposed to take this view on account of the persistence of the lateral deviation of the eyes, this being usually a fugitive condition when it is due to lesion in the corpus striatum, the reason for which I have explained elsewhere.

Slight right hemiplegia of gradual access; impaired articulation; peculiar affection of respiration; sudden death.—Ross C——, a sweep, aged thirty-nine, became an out-patient at St. Mary's Hospital, Jan. 30th, 1865. He had gradually been losing power in the right limbs for a year, and the leg, hand, face, and tongue trembled. His speech was slow and his utterance thick. The right pupil was smaller than the left. He was "very heavy for sleep," and would often fall asleep in his chair, and while sleeping his wife said he turned blue, and at length woke up suddenly, appearing bewildered, and often laughing. The articulatory defect was greater than was warranted by the degree of paralysis of the limbs, and was of a kind which suggested lesion of the medulla as its cause. The partial asphyxia which occurred during sleep also pointed to the medulla as the seat of some disease which made the reflex respiratory movements insufficient, and rendered supplemental voluntary respiration necessary. He had had syphilis, and iodide of potassium in eight-grain doses was given three times a day, and a Plummer's pill at night. He improved considerably, his speech became less thick, he regained almost full power in his right limbs, and was able to resume work. On March 9th he paid his last visit to the hospital, and was remarked by his wife to be in very good spirits on account of his improvement. In the course of the day he took beer to excess with a friend in celebration of his recovery, went home, lay down on the bed, fell asleep and was found dead. I heard nothing of this till three or four weeks later. A post-mortem examination had been made, and an inquest held, the cause of death assigned being heart disease. I afterwards saw the medical man who had made the examination, and found that the opinion given was an inference from the mode of death, and was not based on definite change in the heart. No morbid appearance had

been found in the brain, but there had been no special examination of the pons and medulla.

In the following case the diagnosis is less certain both as to the seat and character of the disease, but there was a distinct history of syphilis.

Left hemiplegia with tonic spasm; impaired phonation and articulation (partial paralysis of eighth and ninth nerves).—The patient, a schoolmaster, aged thirty-two, came under my care at St. Mary's Hospital on October 15th, 1871, suffering from a peculiar form of hemiplegia, with impairment of articulation, and other symptoms which will be described in detail. The hemiplegia was on the left side, and was accompanied with a degree of rigidity of the affected limbs, which had not wasted at all, but were firm and well nourished. He had considerable power and range of movement in the left arm, could carry the hand to the head, and use a fork for eating; but all movements were slow, vague, and wanting in precision, and extension of the elbow especially was difficult on account of tonic contraction of the biceps. The act of walking was very clumsy and slow, and he often stumbled. The left leg was stiff, the toe turned in and scraping along the floor, the knee unbending, the hip raised. He could not raise the foot to a chair or flex the knee; the ankle also had little motion. There was no marked evidence of unilateral paralysis of the face; but the lower lip had a tendency to hang, did not act properly in articulation, and could not be made to assist in producing a whistle. There had previously been dribbling of the saliva. The tongue also was large and unwieldy, and not well under command. The speech was very peculiar. Phonation, the laryngeal part in speech, was imperfect; the voice was squeaky, forced, and unnatural, requiring great effort, but he could produce a loud, deep "*Ah!*" In speaking, the mouth was expanded greatly laterally, and the jaw depressed much more than usual, while the tongue was seen to be almost passive. His enunciation was slow and laboured, the words being brought out one by one, each with a distinct effort. The articulation was indistinct; he could go through the alphabet, but did not pronounce any consonant perfectly, those requiring the action of the lips and of the tip of the tongue being most imperfect. In speaking, the pronunciation was less distinct than in naming individual letters, and a *v* in his own name was always dropped. When asked to read, the articulation became worse and worse, till in two or three minutes the words could not be distinguished. The intelligence was apparently unaffected; he read much, construed Greek well, wrote good letters; but his emotional condition was peculiar, as he was liable to an uncontrollable laugh, in which the expiratory phase was a continuous squeak, unbroken by the successive explosions of ordinary laughter, quickly subsiding into a mere hiss, which was prolonged till it almost became alarming, when there would be a loud inspiration. The left ear was rather deaf; the optic discs normal. Since his illness the patient has become very stout.

The history of these symptoms was as follows:—Syphilis contracted four years before the patient came under observation. A year afterwards left hemiplegia, coming on suddenly in the night; motor power absolutely lost at first, but gradually returned, so that in six months he was able to walk. Twelve months after this attack the speech gradually became indistinct, and in six months he could not speak at all. At this time deglutition was very difficult; he swallowed solids better than fluids, these escaping by the mouth; the saliva also dribbled. The difficulty of swallowing was probably lingual and not pharyngeal, consisting in a failure on the part of the tongue to bring the food within the grasp of the constrictors. Remains of this difficulty were indeed still to be observed. Afterwards he gradually improved up to the point which he had reached when he came under observation. Under the influence of iodide of potassium and galvanisation of the affected limbs, further improvement took place, both in speaking and walking, but it appeared to me that irremediable damage had been inflicted.

The principal fact, in addition to the history on which I base the conclusion that the disease was syphilitic, was the gradual paralysis of the tongue, lower lip, and larynx; its arrest and the subsequent amendment. It is this grouping of the paralysis which localises the lesion in the medulla, the nerve nuclei for the movements of all these parts being within reach of a single lesion in this situation. Disease of the motor tracts of both sides above the pons may affect speech greatly, and produce a relaxed condition of the labial muscles; but I have only met with the same peculiar modification of laryngeal phonation in one other case, and in this the evidence of disease in the medulla or lower part of the pons was complete, as there was cross paralysis—hemiplegia of one side and facial paralysis of the other, with impairment of speech. The hemiplegia was probably due to thrombosis of a branch of the right middle cerebral artery, and had nothing to do with the loss of speech which occurred twelve months later.

SYPHILITIC AFFECTIONS OF THE CEREBELLUM.

The symptomatology of disease of the cerebellum is singularly obscure, corresponding, however, in this respect with the state of our knowledge of the physiology of this nervous centre.

I still adhere to the theory of its action, which makes it the seat of the higher and more complex co-ordinations of movements. It is not the sole organ of muscular co-ordination, as was at first inferred from the experiment of Flourens. The spinal cord co-ordinates in a distinctly purposive manner movements which respond to tactile or other cutaneous impressions, but when movements have to be guided by vision, some special and more complex apparatus is needed to bring muscular actions into relation with visual impressions, which are so far removed in character from tactile impressions (the immediate guides of muscular actions), and are correlated with them only by inference and experience. This is essentially, though in a superficial and imperfect way, the view held by Mr. Herbert Spencer, and repeatedly expounded and illustrated by Dr. Hughlings Jackson—namely, that the cerebellum is to space relations what the cerebrum is to time relations. Dr. Ferrier's interesting experiments, which appear to make of the cerebellum simply a motor centre for the movements of the eyes, receive no support from the facts of pathology, and his results will probably find some interpretation more consistent with these. As in the cerebral hemispheres, so in the cerebellum, there may be extensive disease without obvious symptoms, or the symptoms may be such as will indicate only the existence of intracranial mischief, but afford no indication whatever of the seat of the lesion—viz., pain in the head, vomiting, and blindness; pain, however, being more constant as an accompaniment of cerebellar than of cerebral disease. The special symptoms of disease of the cerebellum, when such exist, are a peculiar staggering gait and a vague, purposeless character of the movements generally, together with a marked loss of vigour and energy. A want of control and co-ordination of muscular actions is evident, but it differs from that due to loss of spinal co-ordination, and it is not increased by closing the eyes. In the latter stages, evidences of pressure upon the medulla, or of general intracranial pressure, may be superadded, due to effusion into the cerebral ventricles. In the cases of disease of the cerebellum which I have watched to a fatal termination, and in which I have made post-mortem examinations, the cause has not been syphilitic, and in the case I am about to relate, which I considered to be one of syphilitic affection of the cerebellum, no examination was made.

Headache; fits of uncertain character; hemiopia; later slight right hemiplegia; sudden death.—Robert K——, aged twenty-six, shoemaker, first came under observation on Dec. 7th, 1865. He had syphilis seven years previously; six months before, and again recently, had had a fit, no account of which was obtained. Before the fit he had pain in the head, and at times saw double. The headache, which was frontal in situation, continued, was worse at night, but was especially exacerbated when the patient stooped or rose from the sitting posture. At times he was giddy, but he did not fall. Ever since the fit he had been "dark on the right side"—i.e., while he could see an object directly in front, or to his left, he could not see anything to his right, and it was found on testing the two eyes separately that the inner side of the right retina and the outer side of the left were blind. He saw a little better with the right than with the left eye; the pupils were equal. The patient was a well-built and well-nourished young man, inclined to be stout, pale, but not anæmic-looking, with a depressed expression. Besides the pain, he complained of feeling weak, low-spirited, and deficient in energy. Bowels open; appetite failing. He was

ordered a couple of aperient pills and four grains of iodide of potassium, with ammonia and gentian. On the 14th he was worse, and had pain over the brow and in the mastoid regions. When he rose from the sitting posture his strength seemed to leave him altogether. Vision as before; right pupil a little larger than the left; sleep imperfect; appetite good; bowels confined; stools of clayish colour; tongue white. Iodide continued. Mercury pill, one-fourth of a grain; compound rhubarb pill, two grains; extract of taraxacum, two grains; ordered twice a day. On the 18th he was again worse, and quinine was substituted for the iodide of potassium by the clinical assistant. He improved for a time after this change, and on January 1st had much less pain in the head, the state of the vision remaining the same, and the right pupil being still larger than the left. The headache, however, returned, and on Jan. 8th Fowler's solution of arsenic, in doses of four minims, was given with calumba, in the place of the quinine; aloes and soap pill having also on the 4th been substituted for the pill previously taken. He took the arsenic for a month, improving on the whole; but at the end of this time he was made sick by it, and it was discontinued. After this he continued to attend the hospital with the greatest regularity for more than a year, taking nearly all this time ammonia, with gentian and an aloetic pill. The vision was restored, and the headaches ceased, or returned only at intervals. For a short time (about February, 1867) he complained of tingling in the right face, and pain in the right shin, the first of these symptoms acquiring significance from the subsequent history.

In this case there was no doubt from the first as to the existence of some intracranial lesion. The fits alone would not have been conclusive, but the association of these with the peculiar affection of the sight left no room for uncertainty. The situation of the lesion could, moreover, be approximately fixed. The blindness in the left half of the two eyes, of the inner part of the right retina and of the outer part of the left, showed that the left optic tract was involved at some point between the commissure and the corpora quadrigemina. The diagnosis I formed provisionally was that there was a tumour in the cerebellum, giving rise to pressure on the optic tract, as in a case I had previously watched to a fatal termination; this conclusion being favoured also by the want of energy, which is a common result of the disease of the cerebellum, and by the giddiness. It seemed reasonable to suppose that it might be syphilitic, and iodide of potassium was given at first; but improvement following the substitution of quinine, it was discontinued before an adequate trial had been made.

After an interval of two years, during which the patient had been seen occasionally, he again came under observation on April 29th, 1869. He then complained that his head felt queer, and had done so for some time. At times he staggered as if drunk, and a weakness of the right side gradually came on. This he felt most after walking, and he noticed that he dragged the foot, wearing out the right boot at the toe very rapidly. The right arm was weak. There was evidence of slight paralysis of the muscles of the right side of the face, and articulation was indistinct. Sensation was not, apparently, impaired. Right pupil a little larger than the left; both small. The expression of the face was that of great depression of spirits; he sighed frequently and deeply. He was unable to stick to work, earning only from three to six shillings a week, instead of eighteen or twenty shillings. He was indisposed to go out, and would sometimes remain in bed all day. He ate and slept well. Bowels confined. The treatment adopted was iodide of potassium, beginning with six grains gradually increased to sixteen, aperient pills, and blisters behind the left ear. He attended at the hospital for two months, and seemed to improve a little, gained strength in the arm, dragged the leg less, spoke more distinctly, and did more work, but was never able to go on with it steadily through the day. He was lost sight of at the end of June, and, as was learned subsequently, became an out-patient at the Epileptic Hospital. He died in Jan., 1870, and from his father the following particulars were obtained:—For four months before his death he scarcely did any work; would begin, but would cut the "uppers" all to pieces; could not control his movements. He appeared "lost," was unable to give his attention to anything, and was extremely irritable. His appetite was enormous, and he became very fat, but was extremely weak. When he stooped his face would become so red that it seemed as if all the blood in his body rushed to his head. On the day before his death, he did one or two odd things, and went home to bed, where he was found next morning at 10.30, lying in a torpid condition, but answering when spoken to. He refused to rise, and struck violently at a man who tried to drag him out of bed. Later in the day he had a sort of fit, which consisted in violent movements of the legs only, and he became unconscious, lingering in this condition for four hours, and "dying from the feet upwards"—i. e., the feet became cold, and the legs motionless.

It may be conjectured that the immediate cause of death was hæmorrhage into the membranes at the base of the brain and round the medulla; though a sudden termination is not uncommon in disease of the cerebellum, independently of any such accident, in consequence of proximity to the medulla. No post-mortem was made.

In my next lecture I shall consider the syphilitic affections of the brain, the most interesting and important part of my subject.

Lectures
ON
HOSPITALISM,
AND THE CAUSES WHICH DETERMINE THE MORTALITY AFTER AMPUTATIONS.

Delivered in University College Hospital, Jan. 1874,

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LECTURE II.

GENTLEMEN,—In my last lecture I pointed out to you the mortality that still prevails after amputation, based upon figures that I laid before you; and there can be no doubt of their character, as they were drawn from the statistical reports which are now commonly published by the officers of many of our hospitals. They prove incontestably that the average mortality after amputations in general hospital practice in this country is from 35 to 40 per cent., whilst the available continental returns show a much higher rate. I also pointed out the important fact that there has been no diminution in this rate of mortality during the last thirty-five years—that it is, in fact, higher than that furnished by statistics then published. If the figures are correct—and, for the reason I have given, I have no doubt of their accuracy,—the deductions I draw from them are perfectly legitimate. To-day we will proceed to inquire into the most important question of all—namely, the causes that lead to the production, and are still leading to the perpetuation, of so lamentable and unsatisfactory a result. These causes may, by a reference to any published statistical table of hospital reports, be found to arrange themselves under four distinct heads.

Firstly, there are certain conditions inherent in the operation itself which dispose to a fatal result; as, for instance, exposure of the membranes of the brain in trephining, the opening of the peritoneum in operations for hernia, and the deep cellular planes of the pelvis in lithotomy. To these conditions it is sufficient to advert, and no description of them is rendered necessary, as they explain themselves. But it is well to bear in mind that the influence of such direct conditions as these is much increased by a complication of septic agencies.

Secondly, we have a series of causes which exercise a very minute influence upon the general rate of mortality, although they are individually serious and important—as, for instance, secondary hæmorrhage, &c. The two principal causes that determine death after the greater operations—such as amputations, ovariotomy, and others—are, undoubtedly, shock and septic disease. The

influence of these in amputations is well marked. Out of the 80 cases occurring at the University College Hospital, which form the basis of these observations, I find that there are 3 deaths from shock, and 10 from pyæmia and erysipelas, leaving only 8 deaths to be accounted for by exhaustion and other minor and more varied causes such as I have mentioned. On referring to Table B we shall find that, out of a total of 631 amputations, 110 died from shock and pyæmia together, or 17½ per cent. of the whole operated on; while of the 239 deaths, 48·4 per cent. were from the combined influence; and this is irrespective of those that are reported as dying from exhaustion, which is closely allied to shock, or from erysipelas, low cellulitis, and other forms of septic disease than pyæmia. This terrible disease—pyæmia—proved fatal in as nearly as possible 36 per cent. of all the deaths; and shock in about 10 per cent. of the deaths, or, in other words, in 3·8 per cent. of the whole number of amputations. But the respective influences of these two great causes of death after amputation will be found not only to vary very greatly according as the operation is primary, secondary, or for disease, but also to exercise very different degrees of influence in different hospitals, as may be seen by reference to the table. Shock was most fatal in primary amputations, in the proportion of 25 per cent. of the deaths. It was but little felt in secondary amputations—only to the extent of 6 per cent.; and it was entirely absent as the cause of death in all the pathological amputations. Pyæmia was fatal in about one-third, or 33 per cent. of the primary amputations; in 44·4 per cent. of the secondary amputations; and in those for disease it acquired nearly the level of the primary amputations—namely, 34·6 per cent.

We shall proceed to consider these two conditions more in detail. And first with regard to shock. The influence of shock is necessarily most felt, as I have already said, in primary amputations. Indeed, I believe its fatal results are almost entirely confined to amputations performed within twenty-four hours of the infliction of the injury; at least I have never known a case of intermediate or secondary amputation, or of amputation for disease, in which the patient died from this cause. Fatal shock, in fact, is the result of the combined depressing influence of the injury and the operation. It is often rather referable to the injury than to the operation, and it becomes a question whether in many cases of serious and almost hopeless smash of a limb, it might not be better to let the patient expire in peace than to subject him to a repetition of a shock which his nervous system will be utterly unable to bear. This is more especially the case in extensive crushes and disorganisations of the lower extremity, up to, or even above, the middle of the thigh, such as are now unfortunately frequent in railway accidents, in which the mangling of the limb more resembles that produced by a cannon-shot than by an ordinary injury of civil life. In these cases amputation at the upper third of the thigh or at the hip-joint is the only available operation. It is usually done in such cases, but is it ever successful? That is a question that deserves the serious consideration of hospital surgeons. I am not acquainted with a single case in which such an operation has succeeded in general hospital practice. The three cases in which it was done, out of the eighty University College cases, died of shock. The same catastrophe has happened with every other case on record with which I am acquainted. It is an operation that has been abandoned by military surgeons in the cases of compound comminuted fracture of the femur from bullet wounds in this situation; ought it not to be equally discontinued by civil surgeons in those more hopeless cases of utter smash of the limb that occur in their practice? For my own part I shall never again amputate in that situation for such injuries. They are hopeless alike whether left or subjected to the knife, and surely better left to die in peace than again tortured by amputations which all experience has now shown to be utterly useless.

It is of importance to observe, in reference to these cases of death from shock after primary amputation, that the fatal result happens a few hours, usually within twenty-four, of the performance of the operation. Hence, although it may be disposed to by the previous condition of the patient as to his powers of resistance, his age, &c. (for death from shock necessarily occurs more frequently under similar conditions of injury at advanced than at an early period of life), or even by the season of the year, yet it cannot in any way be affected by the condition to which the patient is exposed subsequently to the performance of the operation, as far at least as hospital or other external influences are concerned. We must, therefore, look upon death from shock as a part of the general accident to which the patient has been exposed, and of the injury that he has sustained, aggravated doubtless by the further depressing influence exercised by so serious an operation as an amputation high up in one of the limbs. It is interesting to observe that the season of the year exercises an influence in liability to death from shock after primary amputation. According to Dr. Hewson, of Philadelphia, it is most common in winter. The reason is obvious—the cold to which the sufferer has been exposed at the time of the occurrence of the accident for which he is to undergo amputation, in addition to the other causes of vital depression. In these cases, then, an accident of this kind occurring in winter, the exposure to cold aggravates considerably the tendency to death from shock. If, therefore, we wish to improve our statistics of amputation, or if, in other words, we wish to lessen the mortality consequent on these operations, the first point to look to is not to amputate needlessly in hopeless cases of smash of the thigh high up, in order to give what is called a "last chance" to the patient, whose vital powers have already been depressed to the lowest ebb by a fearful mutilation. Such amputations, which often consist rather in the severance of a limb still attached to the trunk by shreds of muscle, ought scarcely to find their way into a statistical table professing to give the general results of operations, the majority of which are deliberately performed, and with a better prospect of success. They ought, in fact, to constitute a class of cases apart, in which the operation is subsidiary to the injury that has preceded it and that leads to it. Shock, as has already been shown, exercises its influence chiefly in primary amputations, far less in secondary, and disappears entirely as the cause of death in pathological amputations, where, however, it is replaced by exhaustion. This condition stands in the same relation to amputation for disease that shock does to those that are performed for injury. Death by exhaustion or collapse is, in fact, an indication that the impression produced by the operation on the nervous system has been greater than the already enfeebled powers of the patient were able to endure, and the frequent occurrence of these terms as indicating the cause of death in any table of amputation statistics may be taken as evidence of the operation having been practised too often when the patient was already too enfeebled by long-continued disease and suffering to be able to support the additional depressing influence of a serious surgical procedure.

The next and most important influence is undoubtedly that exercised by the development of septic disease after the amputation. The importance of this is obvious from the consideration of the following statistics:—Out of the 21 deaths after amputation that occurred in the 80 University College cases, no less than 10, or nearly one-half, were from this cause; and out of a grand total of 239 deaths occurring in four metropolitan hospitals, I find that 86 died from pyæmia—nearly four times as many deaths from pyæmia as from shock. The amount of septic disease varies very greatly in different hospitals, not only after amputations, but after all operations for injuries. It is extremely difficult to form not only a correct but even an approximate estimate of the number of cases that thus occurred, for many cases that are undoubtedly due to septic causes are returned under the heads of various visceral inflammations, as pneumonia, pericarditis, pleurisy, effusion, &c. Besides this, there are certain forms of erysipelas, or diffuse septic inflammation, which attack the peritoneum and the cellular planes of the pelvis after herniotomy and lithotomy, and which are looked upon as the causes of simple peritonitis, or infiltration of urine, when in reality they are diffuse erysipelatous inflammations. In the University College Hospital, during the three years and a half in which the 9 deaths from pyæmia after amputation occurred, we had 14 other cases of pyæmia and 2 of septicæmia, and 85 cases of erysipelas, of which 16 died. From this some estimate may be formed of the amount of disease that probably exists in other hospitals in which the mortality from pyæmia after amputation far exceeds that which occurs in University College Hospital.

Now it is this septic influence which has been termed hospitalism—a word much objected to by some, probably somewhat incorrect in its application, but yet explicit and convenient for our present purpose, and one to which I think no very serious objection applies. We have long familiarly recognised the effect of hospital influence in speaking of hospital sore-throat, hospital gangrene, &c.; and I see no sufficient reason for abstaining from the use of a word that places other deleterious influences met with in hospitals in the same category as these two diseases. By hospitalism I mean a septic influence capable of infecting a wound or of affecting the constitution injuriously. This septic influence, this miasma, or poison if you will, commonly exists to a greater or less extent in all hospitals, or in any building, temporary or permanent, where large numbers of wounded and injured persons are congregated together under one roof. It may be kept in check and remain in abeyance under ordinary circumstances, by close attention to sanitary measures, but it will develop itself in proportion as this is relaxed, and it may at any time, and under any circumstances, acquire extreme virulence if the crowding together of the operated or injured having suppurating wounds be excessive—if, in point of fact, under such circumstances one of two conditions is established, either that the cubic space of air for each person be brought below a certain level, or if ventilation be neglected whatever that cubic space may be. But attention even to these precautions will not prevent the generation and development of septic influences if the aggregation of the wounded be very large.

It is important to observe that by hospitalism is not meant a disease that is peculiar to and specially or only occurs in hospitals, and that never occurs under any combination of circumstances out of such institution. By it is meant merely a general morbid condition of the atmosphere productive of disease that, for the reasons just mentioned, is more rife in hospitals than elsewhere. Doubtless all the septic diseases that are met with in hospitals are also encountered in the practice of surgeons out of these institutions, but they are unquestionably infinitely less common in private than in hospital practice. Erysipelas in some form or another is the septic disease that is most frequently met with in private practice, and undoubtedly very severe cases of this disease are occasionally seen under circumstances where they would scarcely be expected. I have frequently, in my own practice, met with as serious cases of phlegmonous erysipelas after often trivial injuries, as I have seen in hospital, although I have comparatively rarely met with serious forms of erysipelas after operations in private practice. I can safely assert, however, that during the last twenty-five years I have never seen a single case of acute pyæmia or septicæmia following an operation in private practice. I have met with it, though very rarely, after carbuncle, sloughing abscess, and dissection-wound, but I have never met with it out of a hospital after an operation of any kind. In saying this I am only speaking of my own experience, and if it differs from that of some surgeons, it certainly agrees with that of others. I have lately been called to see patients in two large provincial towns widely removed from one another, each being furnished with a county hospital of old standing, containing from 140 to 150 beds. The surgeons whom I met in consultation on these occasions were men of the highest experience, and in very extensive private practice. They both told me the same story, that they were much distressed by the large amount of pyæmia in their respective hospitals, which had become so serious, notwithstanding the careful and vigilant employment of sanitary measures, that it was in each case a question with the governing bodies of those institutions whether the existing buildings should be pulled down and reconstructed at a very great cost. These gentlemen both told me that they had never seen a case of pyæmia out of the hospitals in the towns in which they were situated. One of them mentioned a single exception in a case of lithotomy. I think it is impossible, in the face of facts such as these, which might easily be greatly multiplied, to doubt that there is a special if not a specific morbid influence, capable of being generated, and of continued persistence, in large hospitals. But although I do not happen to have met with pyæmia after operations in private practice, I do not for a moment deny the possibility of its occurrence, for it is reasonable to believe that if a combination of the same circumstances that are met with in hospitals were to occur elsewhere, as in a close, overcrowded, badly-drained, and ill-ventilated house, the same condition of septic influences might be developed.

It necessarily follows that if there is an increased rate of mortality occasioned by septic disease generated in hospitals, there must be a rate of mortality smaller in the direct ratio of that which is produced by these causes in those patients who are operated upon out of hospitals; in other words, the success attendant upon operations in private ought to be greater than that which follows similar procedures in hospitals in the direct ratio of the deaths that arise from so-called hospitalism, other conditions being equal. This part of the present inquiry is one the elucidation of which is involved in extreme difficulty, owing partly to the comparative absence of statistics of private operations, and in some degree to the different conditions of the patients, so far as social status and habits of life are concerned, that are operated upon out of hospitals, in comparison with those that are inmates of such institutions. In reference to this point I may observe that Simpson found that out of 160 deaths after amputation in private practice, only 8 were from pyæmia—exactly 5 per cent. Shock was the chief cause of death. There are, however, certain classes of cases into which these disturbing influences do not intrude themselves, and between which comparisons may therefore be more justly made than can be done in others. The cases to which I refer are met with (1) in maternity charities, (2) in the operations for diseases special to women, and (3) in military practice. Attention was first of all drawn to the high rate of mortality that occurs in hospitals in comparison to what is met with in private practice, by obstetric practitioners finding that the mortality in maternity charities attendant on parturition was infinitely greater than that which occurred amongst poor women delivered at their own homes. The statistics of Lefort on the rate of mortality following the delivery of nearly 2,000,000 women in different parts of Europe, one-half at their own homes and the others at lying-in hospitals, are so distinct and definite in their results as to leave no doubt whatever upon the infinite increase of the risk that is attendant upon parturition in lying-in hospitals. Lefort states, as the general result of his inquiries, that of nearly 900,000 women delivered in hospitals, 1 in every 29 died; whereas of nearly 1,000,000 women delivered in their own homes the mortality was only 1 in every 212; and Simpson, whose authority on such a subject as this can scarcely be questioned, cites these figures in order to show the greater danger to life which women undergo who are confined in lying-in hospitals over those who are delivered in their own homes. It is well known that it is impossible to establish a maternity ward in a general hospital without exposing the women confined in it to the greatest possible peril to life; and in every instance, I believe, in which it has been attempted in London the mortality has been so great that it has become necessary to close the ward. The fact is certain that a woman has a better chance of recovery after delivery in the meanest, poorest hovel than in the best-conducted hospital, furnished with every appliance that might add to her comfort, and with the best skill that a metropolis can afford. The conditions of a parturient woman are not altogether dissimilar from those of one who has undergone a surgical operation, and a comparison between the two, although not absolutely accurate, is sufficiently so to entitle us to draw this conclusion, that there is a septic influence existing in hospitals which is highly destructive to the life of women who have recently been delivered. But if we compare the results that have been obtained in and out of hospitals in that operation which may justly be looked upon as one of the greatest glories of modern surgery — namely, ovariotomy, — we shall find somewhat similar results: viz., that the mortality after this operation in general hospitals amounts to from 60 to 80 per cent., whilst in private practice, in the hands of Keith and Spencer Wells, it is from 18 to 24 per cent., and is gradually on the decline. Hospital ovariotomy, indeed, points most conclusively to the evils attendant upon the performance of this operation in general hospitals. All the early successful cases were done in private; when practised in the London hospitals, the mortality became so excessive that the operation was looked upon as unjustifiable by surgeons as much distinguished by

their boldness as by their skill in operating; and ovariotomists were stigmatised by opprobrious epithets by some of the most distinguished hospital surgeons of the day. Continuous experience has shown that ovariotomy is not an operation that is practicable with any prospect of success in general hospitals. No amount of care, no amount of sanitary arrangement that has yet been brought to bear upon such cases, can overcome the destructive nature of septic hospital influences; and if a patient on whom ovariotomy has been practised is placed either in a large ward of a general hospital or secluded in a private one, her chance of recovery is rendered so small that I believe I am correct in saying that no surgeon at the present day will venture to undertake the operation in such circumstances. In some general hospitals in which ovariotomy has been largely practised, a special building detached from the hospital has been erected for the reception of such cases, and every possible care has been taken to prevent the contamination of the patient by influences generated in, and emanating from, the parent institution. On such a question as this, the statement made by so distinguished and successful an operator as Spencer Wells must be considered as authoritative. After pointing out the importance of isolation and of close attention to sanitary arrangements in these cases, he concludes with these words:—"And the question seriously presents itself, whether ovariotomy or any other surgical operation attended with risk to life should ever be performed in a large general hospital in a large town, except under such circumstances as would render removal to the country or to a suburban cottage hospital more dangerous." He states, further, in the last volume of the Medico-Chirurgical Transactions, that his conviction is that the surgeon who hopes to obtain better results than has hitherto been obtained must place the patient in as nearly as possible the position of a person in a private house in a healthy locality.

That which holds good with regard to ovariotomy may reasonably be supposed to be applicable to other operations in which the abdominal or pelvic cavities are opened.

When we turn to the subject of amputations, we find it somewhat difficult to institute so accurate a comparison between cases requiring this operation in civil practice and cases in which it is performed in and out of hospitals. But in military practice this difficulty does not exist. Amputations in active warfare are practically performed on individuals under very similar circumstances, so far as age, sex, previous habits of life, condition of patient, and cause and nature of injury are concerned. The only differences to which the sufferers are exposed are the conditions to which they may be subjected after the operation has been done. Now on this point the recent experience of the Franco-German war confirms that which has been derived from the results of operations practised in all modern wars—namely, that those patients have the best chance of recovery who are treated in the open, under canvas, in temporary huts, with the slenderest possible shelter perhaps; whilst the mortality from pyæmia, erysipelas, hospital gangrene, and other septic diseases, is developed almost in the direct proportion of the accumulation of the wounded in regularly constructed buildings converted for the purpose into temporary hospitals. The employment of hut-hospitals in the field during the late war in France proved incontestably that septic hospital influences of a destructive character may be almost entirely prevented. These huts, which were single-roomed, built of rough weather-boarding, raised on stages about two feet from the ground, were isolated one from the other. The lightness and looseness of their construction adapted them admirably for ventilation, the wind blowing freely through on all sides. Mr. Berkeley Hill, who visited these hut-hospitals at Saarbrück, states that each hut contained about fifteen beds, which were almost all occupied; that there was a complete absence of anything like a sick-room smell in any of the hut-hospitals; whilst in buildings of every other kind used for the reception of the wounded it was easy to detect the peculiar odour so universal in continental hospital wards. He states: "In all the hut-hospitals I visited the condition of the patients was most satisfactory; not a single case of pyæmia had occurred. In the houses and other buildings converted into hospitals, in too many instances hospital diseases had begun to appear." It is impossible to give a better illustration of the development of hospitalism, under apparently the most favourable circumstances for its prevention, than by a reference to what occurred in the orange conservatories which were converted by the Duke of Hesse Darmstadt into temporary hospitals for the reception of the wounded. These orange-houses, Mr. Hill states, were wide, lofty rooms, with windows on the southern side that reached from the ceiling to the floor and opened freely. They were situated in a fine garden, and the patients treated in them had every appliance of comfort and cleanliness. Several cases of pyæmia had occurred in them, and one of extensive hospital gangrene, which ceased as soon as the patient was removed from the orangery to a small tent; and the servants in charge became impressed with the unfitness even of such a building as a conservatory for the accumulation of the wounded. The same happened with the school-house at Saarbrück—a large building that had been occupied for a few weeks as a hospital, apparently well adapted for the purpose, having lofty rooms, an airy staircase, large windows, and situated in the outskirts of the town; yet pyæmia and hospital gangrene had been so rife within its walls that one ward had already been closed. There are similar instances, which I might multiply to a considerable extent, to prove, as clearly as it is possible to demonstrate any pathological fact, that septic influences, or, in other words, hospitalism, becomes generated by the accumulation of wounded persons under one roof, and may be prevented by their isolation in scattered groups; and it is only in this way—namely, by the absence of septic diseases amongst those operated upon in the field, whilst they are fearfully prevalent amongst the wounded who are lodged in hospitals,—that we can explain the remarkable statistics published by Guthrie as the result of primary and secondary amputations in the Peninsular war. Of 291 primary amputations done in the field, and necessarily in the open air, only 24, or 1 in 12, died; whilst of 551 secondary amputations done in the hospital, 265, or nearly one-half, died. This statement, which I believe has never been challenged, is of itself conclusive as to the comparative safety of the two methods of treating amputated soldiers.

As is well known, Sir James Simpson has attempted to prove, by a large body of statistics collected from various sources, that amputations performed in war and in private practice are far less fatal than those that are performed in general hospitals. These statistics have now been so long before the profession, and have led to such an amount of controversy, that I need do no more than allude to them. It is quite possible that they are not absolutely correct, and that certain sources of fallacy have intruded themselves into his tables, that successful cases have been recorded and unsuccessful ones kept back, that the condition of the patients compared, although belonging practically to the same class of society, were different before the operation, inasmuch as one was drawn chiefly from an agricultural and mining population, and the other from the inhabitants of towns. After following the controversy with much attention I cannot but come to the conclusion that Simpson's statistics have been rather objected to than actually disproved, and making all reasonable allowance for any possible source of error, the difference between the results arrived at is so great—namely, a mortality of 1 in 2·4 in large hospitals against a mortality of 1 in 9·2 in country and private practice—that I cannot admit that the sources of fallacy are sufficiently numerous and great to reconcile this disparity. It has been supposed that the very success of amputations in country practice, a mortality amounting to only about 12 per cent., was so great as of itself to prove the existence of some error in the figures; but yet we have seen for the last thirty-five years the mortality in University College Hospital has only been from 23 to 25 per cent.; and by the last statistics it would appear that during the past three years at St. Bartholomew's Hospital a ratio of 18 per cent. has been obtained, and Mr. Callender, by the admirable method of treatment of stumps which he has for some time past adopted, appears to be likely to reduce this rate of mortality to a considerably lower level still, in fact to bring it within the limits of Simpson's returns from country and private practice.

Let it not be forgotten, also, that Guthrie's returns, to which I have already alluded, of primary amputations of all limbs performed during the Peninsular war, show a mortality of more than one in twelve, or, in other words, for those amputations usually the most fatal, little more

than 8 per cent. of deaths. I believe the fact is that many amputations are performed in hospital practice, under circumstances both of injury and disease, in which consent would be refused by the patient and his friends in private. If I look at the table of amputations in this hospital, which I use as the basis of these observations, I cannot but come to the conclusion that we amputate rather freely, and that under similar circumstances of injury and disease in private, some of the cases would be left to die without amputation. However this may be, we have abundant evidence, irrespective of that furnished by Simpson's figures, from the returns I have already given you of the results of parturition, ovariotomy, and military amputations, to show that septic influences of the most destructive character are capable of being generated by the accumulation under one roof of people under certain conditions of natural process of injury and operation. It is to this condition, so generated, and which might, so to speak, at any time be developed at will, grown, as it were, by the overcrowding of a ward with suppurating wounds, that we apply the term hospitalism. By overcrowding, a condition of atmosphere is produced which will, according to the condition of the individuals so congregated together, produce diseases of various types. Overcrowding of uninjured individuals will develop some varieties of typhus, or the gaol fever of a past generation. The overcrowding of wounded people, whether the wounds be accidental or surgical, will develop one of three conditions—namely, hospital gangrene, pyæmia, or erysipelas.

In the next lecture we will proceed to the consideration of these conditions, their mode of production, and the influence they exercise on hospital mortality.

ON INTRA-THORACIC CANCER.

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DR. GRAVES, in his "Clinical Medicine," says: "Rare diseases should not be looked upon as mere matters of curiosity, but should be attentively studied with a view of enabling us to recognise the true nature of similar cases when they again occur." And it is with a view of assisting in such a desirable object that the details of the following case are given to the profession.

J. C——, aged twenty-nine, was employed as a stoker on board one of the Transatlantic steamers. When admitted into the Glasgow Royal Infirmary on Oct. 4th he complained of dyspnœa, weakness of loins, pains in the epigastric region, and inability to retain his food. He stated that he never had been unwell before, except once, five years ago, when he had pleurisy of the right side, which, however, only kept him to the house for two weeks. Eleven weeks ago, when in New York, he caught a severe cold, which was followed by loss of appetite, cough, and nocturnal sweats. He says that at present his cough is somewhat better than it formerly was, and the nocturnal sweats are nearly gone. He was able to go about until three days ago, when he brought up a considerable quantity of blood, and since then his voice has been very husky, and at present he cannot speak with any ease. Afterwards, and for the first time, he observed a tumour on the right side of the neck. This tumour was about two inches and a half in diameter, somewhat round in form and hard, and was considered at the time to be simply an enlarged cervical gland.

The patient was of the average height and well made. His face had a peculiar dusky expression, more especially about the eyes; and his whole appearance was expressive of great anxiety, mental and physical. On percussion, the right lung anteriorly was normal until about three inches from the apex, where a dull sound was elicited, and this was increased towards the hepatic region, and could be heard over the post-inferior half of the lung towards the vertebral column. Over the left lung, four inches from the apex, there was also slight dulness, which deepened towards the cardiac region; posteriorly, the sound was clear in tone. On auscultation over the clear part of the right lung, the breathing was roughened in tone and the respiratory murmur prolonged. Sibilant and crepitant râles were heard, the latter being intensified in character as the dull portion of the lung was reached. Over the base the respiratory murmur was lost and was replaced by distant tubular breathing and diminished expiration. The same physical signs marked the posterior surface. Over the left lung the breathing was puerile in character until the duller portion was reached, where snoring and crepitant râles were heard. Owing to the aphonia of the patient, not much could be learned from the vocal fremitus or resonance. The sputum was rusty in colour and tenacious. No abnormality was detected in the size of the cardiac region. The first sound was prolonged and tumultuous in character. The tongue was moist and covered with a white fur, appearances which it retained all through the illness. After taking food a pain is felt in the stomach, which continues from an hour to an hour and a half. This pain is always present after breakfast, but occasionally it is absent after dinner and supper. This pain was not increased on pressure. The vomited matter was sour and unmixed with blood.

Oct. 8th.—The report states that the sputum, which on admission was rusty, has changed its character, and at times is purulent and at other times is streaked with blood. Sometimes these appearances are combined, and the result is a sputum of considerable quantity resembling red-currant jelly, though not quite so red as this is ordinarily seen.

12th.—Patient much worse. The aphonia is more marked; expectoration difficult and giving rise to distressing spasms, raising the supra-clavicular tumour and distending the jugular vein of the right side. The sputum retains the characteristics mentioned before.

20th.—Dr. Ebenezer Watson examined him to-day at my request with the laryngoscope. The mucous membrane of the larynx was found to be much congested, and over the false vocal cord of the right side Dr. Watson said he saw a roundish prominence. Nitrite of amyl was ordered to be inhaled three times a day.

24th.—He was again examined with the laryngoscope. The congestion was observed to be increased and the œdema of the right cord more marked. The nitrite of amyl, which at first had a soothing effect, having now somewhat lost its influence, an inhalation of equal parts of chloroform and rectified spirits of wine was ordered.

On Oct. 26th the patient died suddenly.

The following conditions were found on post-mortem examination:—A tumour of considerable bulk occupied the fork formed by the bifurcation of the trachea, and extended in various directions from this, which seemed to be the central situation. It extended into the right lung, presenting on section of that organ a somewhat radiating arrangement, processes passing outwards from the root of the lung. It was adherent to the posterior portion of the parietal pericardium, and on removal of the heart it was found to involve the pericardium in its substance, presenting internally an irregular fungating surface. In some parts the portion of the growth inside the pericardium was adherent to the surface of the auricles of the heart. On the posterior surfaces of both auricles a considerable portion of the wall of the cavities was involved in the tumour, which latter projected to some extent into the auricles. Wherever the tumour existed it was impossible to distinguish either pericardium or myocardium, but for the most part the endocardium could be traced over the internal surface. In some parts, however, even the endocardium had disappeared, and the tumour projected free into the auricle. Continuous with the central portion of the tumour there were some large masses in the neck, especially on the right side, and these presented, more or less distinctly, the appearance of affected glands. On dissecting the right pneumogastric nerve, it was found to be, for a length of about two inches, involved in one of these masses, so that it was impossible to dissect it free. In the part so involved was included the point at which the recurrent is given off, and this nerve was also found to be buried in the tumour, so that it was impossible to dissect freely out the communication. On the left side the pneumogastric was free, but the recurrent, just after leaving it, was firmly adherent to the surface of a portion of the tumour. The larynx and trachea were found to be hyperæmic, and there was considerable thickening of the false vocal cords and the mucous membrane over the cartilage of Wrisberg. The latter thickening was extremely well marked on the right side, giving the appearance of a rounded prominence. Near the lower extremity of the trachea several

white nodules projected through the mucous membrane, and the inferior aspect of the main bronchi was entirely occupied by a firm structure continuous with the central mass.

In looking at the history of this case during life, it is interesting to observe how the physical and general symptoms in some instances confirm, and in others do not correspond with, what has been laid down by eminent authorities as diagnostic of cancer of the lung.

1. The first symptom which alarmed the patient and brought him to the infirmary was hæmoptysis. Dr. Walshe, in his summary of nineteen cases, mentions that this was observed in one-half of them, but he does not allude to its being the earliest symptom or the one which first alarmed the patient. Coincident with the hæmoptysis was aphonia and the appearance of the supra-clavicular tumour. This latter sign, particularly alluded to by Dr. Kilgour, was amply confirmed in this case. In cases recorded by Dr. Hughes Bennett and Dr. Cockle, evidently not much importance is attached to it. I apprehend, however, that, when present, it is an indisputable indication of intra-thoracic cancer, and that it will be present in those cases which proceed rapidly to a fatal issue.

2. Dr. Stokes states that pain of a continued kind is the most important diagnostic symptom. That this statement was not confirmed in the case I have recorded is singular, considering the importance and variety of the parts implicated.

3. The nature of the expectoration was peculiar, and coincided with what Drs. Stokes, Graves, and Hughes Bennett have stated about it. At first it was distinctly rusty, and small in amount. Latterly it was abundant, and at times resembled a mixture of black- and red-currant jelly.

4. Dr. Cockle, in his able treatise on Intra-thoracic Cancer, justly states that "it is scarcely possible to give with the necessary precision the duration of the disease." Taking, however, Dr. Walshe's estimate as correct—namely, that the mean duration of intra-thoracic cancer is usually 13·2 months, and the least 3·5 months,—the case which I have reported presents the most rapid termination on record, so far as I am aware. From the date of the patient's leaving work until his death only three months elapsed. He did not consider himself ill until the occurrence of the hæmoptysis and the appearance of the supra-clavicular tumour; and his death happened five weeks afterwards.

In conclusion, I may state that his temperature, which was carefully taken, varied from 100° to 102°.

Glasgow.

CLINICAL EXPERIENCES.

BY THOMAS WHITESIDE HIME, A.B., M.B., &c.,

LECTURER ON MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN IN THE SHEFFIELD SCHOOL OF MEDICINE, MEDICAL OFFICER TO THE HOSPITAL FOR WOMEN, SURGEON-ACCOUCHEUR TO THE PUBLIC DISPENSARY, ETC.

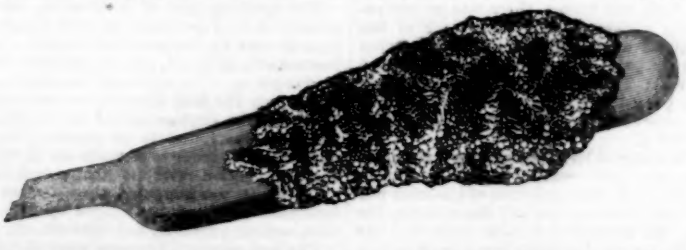
SUSPECTED PREGNANCY; FOREIGN BODY IN THE BLADDER.

THE following case contains several proofs of how nearly pregnancy may be simulated by abnormal conditions, and of the great importance of carefulness in diagnosing, even where it is strongly suspected.

Early in July last, M. G——, unmarried, aged seventeen, became a patient of mine at the Hospital for Women. She had ceased menstruating in the previous February, and had been dismissed from her situation in June on suspicion of being pregnant. She looked healthy; her abdomen was much more prominent than is usual in young virgins; her breasts were large and full, the nipples firm and projecting from a dark, well-defined areola, which was studded with enlarged follicles; the mammary glands were firm and large, but there was no milk. Since the cessation of menstruation she had suffered from temporary attacks of incontinence of urine, and has not passed more than a wineglassful at any time. Micturition was not painful. She had also had severe attacks of vomiting. Her urine had become very thick and offensive the last few weeks. A sample brought to me next day was turbid, dark, and thick from floating mucus; it smelt abominably, was alkaline, albuminous, and of specific gravity 1035. She had never passed any gravel.

The nature of many of the above signs and symptoms rendered a further examination necessary to decide as to whether the girl was pregnant or not, though there was strong *primâ facie* evidence that she was. I could detect no enlarged uterus through the abdominal walls, either by the aid of palpation or percussion, nor of that most instructive of all manœuvres in such cases, simple pressure exerted with some vigour. Pressure exerted in this way (the patient being chloroformed if necessary) will often prevent much delay and many doubts, and give a certain diagnosis, in cases in which dulness, tympanites, enlargement, and other difficulties, by their presence or absence, have caused perplexity. On passing a metallic catheter into the bladder I struck on a calculous mass of large size, which prevented the catheter penetrating more than about half an inch into the bladder. Having taken the patient into hospital, I next day, without the least difficulty, passed my first finger through the urethra and reached the calculus. The vesical walls were so firmly contracted about it that I could not extend my examination in any direction except on the side opposite the urethra. I scraped away a good deal of the mass, and injected water to wash it out, repeating this operation every couple of days for a week. The pain, however, became so severe that, as I dreaded lacerating the bladder, I determined to remove the body by lithotrity, if possible. Having chloroformed the patient, I again passed my finger into the bladder, and found the mass extending right and left from the internal orifice of the urethra as far as my finger could reach. I could not get above, below, or behind it, owing to the contraction of the bladder, which also prevented any quantity of fluid being injected. I succeeded in getting the lithotrite round the calculus, but, to my surprise, though the outside was so soft, I could make no impression on it. I now found, on examination, that beneath the calculous covering was a hard, smooth core. Following up the effect of the lithotrite, I denuded this of a considerable part of its coating, and reached a sharp extremity firmly embedded in a cul de sac, which apparently reached as far as the inner third of Poupart's ligament on the left side. With great difficulty, and after much time had been spent, this end became loosened, and a successful turn brought it to the urethra, whence it was extracted. It turned out to be a toothbrush-handle, and presented the appearance shown in the annexed woodcut, which is of full size. A large part of the calculous covering had been detached while the mass was in the bladder.

Even after this the girl denied all knowledge of the matter. Subsequently she admitted having several times used the implement to relieve stoppage of her urine. But on the last occasion she said it was "drawn into" her bladder. For a couple of days her urine was slightly red, and her bladder was washed out with a weak solution of carbolic acid. In a week she was discharged well, her water being perfectly normal. Twenty-five days afterwards she menstruated



normally, the first time for seven months, and she has continued well since.

An analysis of the calculus, kindly made for me by Mr. Baker, F.C.S., Lecturer in the Sheffield School of Medicine, showed it to consist of urate of ammonia, xanthine, calcium phosphate, and ammonio-magnesian phosphate (potass and soda absent).

In conclusion, attention may be drawn to the leading symptoms and history of the case, which might have readily led to a wrong diagnosis. 1. The girl's friends thought her pregnant: an admission to this effect is very rare under such circumstances; usually everyone, even the patient, is perplexed to account for the child's existence. 2. The cessation of regular menstruation. 3. The prominence of the abdomen. 4. The attacks of vomiting without nausea. 5. The remarkable mammary changes.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo nos endi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

A CASE OF SUPPOSED INCARCERATED HERNIA; OPERATION; DEATH.

(Under the care of Mr. BERKELEY HILL.)

THE following case illustrates some of the difficulties which occasionally occur in the diagnosis and treatment of strangulated or incarcerated hernia; and although the autopsy explained some of the phenomena, it can hardly be said to afford much assistance for the elimination of similar perplexities that may arise in any future case.

Inflammation and abscess in an inguinal tumour, simulating incarcerated hernia.—R. E——, aged seventy, was admitted Nov. 6th, 1873. The patient had had rupture on the right side for about sixteen years, which caused little inconvenience, always going up at night and slipping down in the morning. On the 17th October it did not return to the abdomen, and the next morning there was much pain in the mass, the neck of which became very hard. The tumour had since then varied considerably in size, but had never entirely disappeared. The appetite continued good, and the bowels had been regular until Nov. 5th; since then no action had occurred. There had been no vomiting, but great pain over the belly generally.

On admission the patient was pale and anxious-looking; the tongue dry and dark-brown; the pulse 84, full and soft. In the right groin was a tumour reaching to the scrotum, oblong, and half as big again as a man's fist. There was no impulse on coughing, but fluctuation could be distinctly perceived in the body of the mass; there was no gurgling, nor œdema, nor discoloration of the skin. Moderate force combined with the taxis made no impression on the tumour. Though the tumour itself was tender, there was no tenderness or tension of the abdomen beyond the neck of the tumour. The continuous application of ice for six hours caused some relief to the pain, but did not reduce the size of the swelling.—10 P.M.: There has been no vomiting, nor have flatus or fæces passed the anus. The patient complains of thirst; the tongue is dry and brown, and the pulse 100; temperature 100·6° F.

The patient was put under chloroform and the taxis again applied without success. The swelling was then tapped with the aspirator, and about half an ounce of greenish pus was evacuated, without, however, greatly diminishing the size of the tumour. An incision was then made over the neck, and several thick layers of cellular tissue successively divided, many of which closely resembled peritoneal tissue. The external abdominal ring was reached without finding any constriction, and the incisions were continued through the tumour until a cavity was opened containing about three ounces of stinking pus of doubtful fæcal odour. In this cavity was also a mass of granular fatty tissue easily breaking down under the fingers. A hempen ligature was tied tightly round the upper end of the tumour, including both the fibrous envelope and the granular mass within. The part below the ligature was then cut off and removed in its capsule. On the inner side of the neck, at the external ring, a soft membranous protrusion resembling a knuckle of intestine, but quite free and unstrangulated, was noticed after the mass had been cut off. The wound was then simply dressed, the patient removed to bed, and a dose of opium administered.

The patient rallied from the operation, and passed four days in comparative comfort. He was free from pain, and able to take small quantities of food, the temperature being 99° F., and the pulse between 80 and 90. On Nov. 11th symptoms of peritonitis appeared, and the patient died the following day.

After its removal, the mass was carefully examined by Mr. Godlee, the surgical registrar, to whom we are indebted for these notes and also for the description of what was further discovered post mortem.

The mass contained in its centre a ragged cavity communicating at the lower part with the abscess on its outer side. At the base of the mass, from the internal cavity, a channel led up to the neck of the swelling, where the cut end showed a hole from half to three-fourths of an inch across, the lining of which resembled mucous tissue. Section through the mass and its envelope showed that each consisted of concentric layers of fat and fibrous tissue, all remarkably hard.

Post-mortem examination.—The coverings being reflected, the surfaces of the wound were found sloughy, and bathed with dirty offensive pus. The spermatic cord and tunica vaginalis were entire. The ligature of the pedicle of the tumour passed into the external abdominal ring. The abdominal walls were then divided, and the contents of the abdomen laid open. The intestines were red throughout, but not adherent. The abdominal cavity contained a considerable amount of puriform lymph. The omentum was perfectly free, and did not reach by a considerable distance the level of the internal ring. The cæcum occupied the normal position; the vermiform appendix was entire, and curved down into the pelvis. No portion of intestine showed signs of having been at any time nipped in a hernial protrusion. The subperitoneal fat was abundant everywhere, but showed no sign of having been connected with the inguinal tumour. The internal ring was occupied by a conical depression admitting the tip of the little finger, and its edges were puckered. This puckered depression reached into the stump of the tumour a little behind its centre. Nothing whatever passed through the ring into the stump of the tumour. On removing the ligature it was not possible to pass a probe through the ring to the exposed surface of the stump without violence. A vertical section of the stump showed it to be loose and fatty externally, smooth and hard internally. Outside the peritoneum an abscess extended down into the pelvis, and up behind the cæcum, for a short distance, the walls of which were sloughy. In the lower part of the wound in the scrotum was a hard mass as large as a walnut, having much the appearance of the mass removed at the operation. It could be easily separated from the scrotal tissue, and appeared to be a part of the tumour left behind at the operation.

The question now of interest is, what did the tumour consist of? The diagnosis that decided the surgeons to operate was an incarcerated hernia that had gradually become strangulated, and, if not liberated, would terminate by gangrene. The aspirator was applied with the object of evacuating the fluid contents in the hope that by reducing the bulk the rupture would be made returnable. When the fluid was found to be purulent the tumour was cut down upon in order to liberate the sloughy mass and divide the constriction without delay, and at the time of the operation it was supposed that a mass of omentum, long irreducible, and much changed by degeneration, mortification, and suppuration, had been cut off.

The post-mortem, however, showed that the tumour could not have been omentum, as it was outside the peritoneal cavity, and quite independent of the viscera. The most probable explanation, though one not thoroughly satisfactory, considers the mass to be hypertrophy and fatty

degeneration of an old hernial sac, the upper part of which formed the pouch found after death at the internal abdominal ring, the lower part of which, with its irregular interior and vastly thickened walls, formed the inguinal tumour that during life was taken for a rupture. In this case the communication between the upper and lower part must have been obliterated for some time. If a loop of gut occasionally protruded into the upper pouch during life, it might push the mass further down through the external abdominal ring, and so form a movable tumour that would slip up into the canal and abdomen by night and come down again by day. At last inflammatory swelling fixed the mass, but did not hinder the true rupture from slipping back into the abdomen.

KING'S COLLEGE HOSPITAL.

SARCOMA OF THE SCAPULA; REMOVAL; DEATH.

(Under the care of Mr. HENRY SMITH.)

THE following case—for the notes of which we are indebted to Mr. William Rose, surgical registrar—is of peculiar interest, inasmuch as, while the actual disease is rare, it presented the external appearances of several other affections, for which it might easily be mistaken. Although the operation was not successful, there was evidently no hope of safety except by the free but cautious use of the knife.

E. L——, aged sixteen, was admitted on May 30th, 1873, with a tumour of the right scapula. The patient was a fair-haired, healthy-looking girl. Eighteen months ago she first became aware of a slight nodular swelling under the skin at the upper and back part of the right shoulder. It slowly increased in size up to two months before admission, when the growth became more rapid, and extended in a downward direction over the dorsal aspect of the scapula. This advancement was accompanied with shooting pains in the shoulder, coursing down the arm and up into the neck. The patient had always enjoyed good health, and had gained rather than lost flesh lately.

On admission there was a large tumour apparently involving the whole of the right scapula, causing great deformity and dorsal prominence. The mass was of uniform hardness, and the integument seemed in no way implicated in the growth. There was a distinct sulcus running obliquely across the tumour in the situation of the spine of the scapula. The right supra-clavicular fossa was also occupied by what seemed to be an offshoot of the growth. The axillary glands were not enlarged. There was no œdema or loss of power in the arm, and the movements of the shoulder-joint were perfectly free.

June 7th.—The patient was placed under chloroform and an exploratory puncture was made into the most prominent part of the growth. This procedure only resulted in the oozing of a little blood. A long sweeping incision was then made from the acromion process to the inferior scapular angle, whereby the smooth surface of the tumour, thinly covered by a few fibres of the spinati muscles, which stretched across it, was exposed. A few more touches of the knife were necessary to reflect the integument, and it then became evident that the mass consisted of two main portions, occupying respectively the supra- and the infra-spinatus fossæ, and that they could be removed from the bone to which they were attached, but did not actually involve. Another smaller mass, above and in front of this, was then removed. The bleeding vessels, which were not numerous or large, were then secured, and the skin was maintained *in situ* by sutures, pads, and strapping.

The tumour on section presented a dark, mottled, fibro-gelatinous appearance. Under the microscope numerous round cells were seen, with little intercellular substance. In some parts a few spindle-shaped cells were also visible.

9th.—The patient began to vomit five hours after the operation. Ordered brandy and beef-tea enemata. Slight oozing of blood from wound.

The sickness ceased on the following day, and the patient seemed to be making fair progress until the fifth day after the operation, when the temperature and pulse rose, and she experienced one or two severe rigors. The wound looked inactive, and the discharge was scanty and fetid. After this the patient gradually got weaker, and died on June 20th. The friends refused a post-mortem examination.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, JAN. 13TH, 1874.

DR. C. J. B. WILLIAMS, F.R.S., PRESIDENT, IN THE CHAIR.

LARGE ADENOCELE, COMPLICATED WITH MILK CYST.

BY F. LE GROS CLARK, F.R.S.,
LATE SENIOR SURGEON TO ST. THOMAS'S HOSPITAL.

E. H——, aged twenty-four, married, was admitted into St. Thomas's Hospital in November, 1872. At the age of sixteen she first noticed a swelling in the breast, which had gradually increased to its present large dimensions, but unattended by pain. She had been married two years, and had an infant seven months old. The bulk of the tumour was below the nipple, and the entire mass measured twenty-six inches and a half in circumference. It was removed on Dec. 4th, and the true gland, being almost entirely distinct, was only partially removed with it. The patient made a good recovery. The solid tumour weighed between eight and nine pounds, and proved to be adenoid growth, resembling, on section, the structure of healthy breast-tissue. In its interior was a large cavity, containing about two pints of thick, creamy milk. Its lining membrane was ragged and fibrinous. Its microscopic characters were those of true gland-tissue. The patient has been again recently confined, and suffered only temporary inconvenience at the early period of lactation.

Mr. LE GROS CLARK said Mr. Birkett had asked him if the rapid increase in the size of the tumour would suggest a recent accumulation of milk, or had it attained its chief magnitude previous to her marriage and her confinement? He could only say that the patient said there was no remarkable increase in the size of the tumour after delivery. Whether the abnormal glandular tissue could secrete milk like the ordinary mammary tissue during lactation, and so give rise to a milk cyst, he could not say; if so, the thickened walls might have prevented any signs of its presence.

Mr. BIRKETT said such cases were exceedingly rare; he thought the one he had published in Guy's Hospital Reports was the only one on record where such tissue and such good milk were found. There was a marked distinction between these cases and ordinary adenoid growths; these must be looked upon as perfect glands, developed at the usual age—sixteen—in the case before the Society, and growing after that period. It was the same in his case, where the tumour was not at first removed, as the patient was for a time either pregnant or suckling. It was more solid than Mr. Clark's specimen: it contained only a small cyst full of a mass like cream-cheese, the serous part having been absorbed. On the walls of the cyst decided ducts opened; so we should consider these cases as a development of a genuine breast without a nipple or excretory duct. In ordinary adenoids there was no secretion of milk. He had recorded one other case, in which he had removed a cyst with a large quantity of fluid—serum, milk, and pus; this had grown much more rapidly; on the surface there were many adenoid growths, but the milk came from the ordinary mammary gland. German writers had said it was impossible that new growths could secrete milk, so strengthening his view that in these cases they are supernumerary mammary glands.

REMARKS ON DISLOCATIONS OF THE FIRST AND SECOND PIECES OF THE STERNUM.

BY WALTER RIVINGTON, M.S. LOND., F.R.C.S.,
SURGEON TO THE LONDON HOSPITAL.

The object of the paper was to give an explanation of the mode of occurrence of dislocations of the sternum, illustrated by cases coming under observation at the London Hospital; and to account for their peculiarities by the anatomy of the superior sternal articulation. That dislocations and fractures of the sternum might be produced by direct or indirect violence, and that they frequently complicated fractures and dislocations of the spine, were well-recognised facts; but as to the mode of their occurrence both conflicting and indefinite explanations had been offered. Of fourteen cases collected by Mr. Poland, the displacement was due or was attributed in four to force applied immediately to the sternum;

in one, to violent lateral compression of the chest; in one, to muscular action; in one, to flexion of the body forwards as the result of a fall; in three, to falls from a height on to the back; in two, to falls from a height, the part struck not being mentioned; whilst in one the cause was not stated. Precisely similar causes had been assigned to fractures of the sternum, and the two classes of injury had so much in common that some writers included displacements of the sternum under the head of fractures. In the large majority of cases of both, the upper fragment was found lying behind the lower. In displacements, for instance, the manubrium was almost invariably found lying behind the gladiolus, the second pair of ribs remaining attached to the manubrium, and the strong posterior layer of periosteum untorn, but stripped up from the bone, holding the two segments together. The only recorded exception to this disposition of the segments known to the author was a case recorded by Sabatier. The position of the manubrium behind the gladiolus had been generally attributed to the direct force of the blow, pushing it backwards; but the same effect might be produced, in all probability, by force applied to the body of the sternum, the elasticity of the ribs and costal cartilages attached to it causing it to rebound after it had been depressed. This was M. Maisonneuve's suggestion, and it appeared the more probable because the gladiolus was more exposed to violence. The question might arise whether a particular fracture or displacement had been the result of direct or indirect force. The injuries to the sternum, for instance, which complicated fractures and displacements were often attributed by some surgeons to a violent descent of the chin on to the bone, and often explained by others as the effect of counter-stroke; others, again, regarded them as the result of a doubling forwards of the sternum, caused by forcible flexion of the spine. That violent descent of the chin on to the sternum might occasion *fracture* was both *a priori* probable and was supported by the records of cases. The author quoted a case which had occurred in the practice of his colleague, Mr. Couper, at the London Hospital, as one apparently of this nature. An acrobat of thirty, in turning a double summersault, fell about ten feet on to the back of his head. He came down on some tan, and his head was violently flexed on to his chest. The injury caused a separation between the sixth and seventh cervical vertebræ and an oblique fracture of the sternum, such as might have been produced by the chin inclined to one side. The author believed that the descent of the chin on to the sternum was far more likely to occasion a fracture than a dislocation, and that it was only in cases of disruption of the ligaments uniting two of the cervical vertebræ, by which a freer flexion of the head could be effected, that this cause came into operation. Neither Mr. Poland nor Mr. Hamilton mentioned it, and certainly it had been used to explain cases due to forcible flexion and extension of the dorsal spine.

Two cases were then related by the author in exemplification of the influence of forcible flexion and extension of the dorsal spine on the sternum, in both of which the injury had been attributed by some to the patient's chin. In the first case a man, thirty-seven years of age, was walking in the street when some scaffolding fell on his head. The vertical force thus applied caused fracture and crushing of the third dorsal vertebra, and the violent flexion of the dorsal vertebræ, acting through the medium of the ribs, produced disruption of the ligaments uniting the manubrium and gladiolus. In the second case a man, fifty-five years of age, was standing on the floor of a warehouse when a bag of seeds, falling from a height, alighted on his back between the scapulæ, fracturing the six upper ribs on the left side near their angles, breaking off the spinous processes of the six upper dorsal vertebræ, and fracturing the body of the sixth dorsal vertebra. The dorsal spine was thus violently extended, the shock was conveyed through the ribs to the sternum, but, owing to the greater length and leverage of the five lower true ribs, more powerfully to the gladiolus than to the manubrium, and hence the occurrence of a dislocation of the two segments. This driving forwards of the gladiolus, either separately or more powerfully than the manubrium, which was held firmly by the first pair of ribs, would appear to be the correct explanation of some recorded cases explained in a different manner, as, for example, by muscular action, such as fractures or displacements from simple falls on the back, or from falls in which the back strikes against a prominent object, or falls on to the feet and nates, the body finally falling over on to the back. The lever-like action of the ribs came into play during compression of the chest, and in cases in which the force was applied unilaterally as well as in overarching of the back by violent contraction of the muscles during the expulsive efforts of labour.

The frequency and pathological peculiarities of dislocations were fully explained by the anatomy of the articulation. Although the English anatomical text-books merely stated that the manubrium and gladiolus were united by a single piece of symphysial cartilage, there were in reality two distinct kinds of joint found between them—the amphiarthrodial and the diarthrodial. Having noticed this in examining specimens in the post-mortem room at the London Hospital, the author turned to the authorities, and, finding no mention of the fact in English books, consulted a French "Anatomy" by M. Jamain, in which M. Maisonneuve's researches were epitomised. Thirty years ago M. Maisonneuve had fully described the two kinds of joint in a paper on Luxations of the Sternum, published in the "Archives Générales de Médecine (série iii., tome xiv.) In the amphiarthrodial joint there was a single piece of true fibro-cartilage uniting the segments more thin and friable in the centre than at the periphery. In the diarthrodial each bone was clothed with a distinct lamina of cartilage, adherent on one side, free on the other; and the cartilage belonging to the gladiolus was continued without interruption on to the facets for the cartilages of the second ribs. The spur of the second costal cartilage was joined to the manubrial layer, thus shutting out the articulation formed between the upper facet on the second costal cartilage and the manubrium from the true sternal joint, whilst the lower chondro-sternal articulation was continuous with it. These anatomical peculiarities explained the adhesion of the second costal cartilages to the manubrium in dislocations, and the presence of a distinct layer of cartilage on the end of each segment. M. Maisonneuve's accurate description of the layers of periosteum clothing the anterior and posterior aspects of the sternum was quoted. The anterior coat was described by him as thicker than the posterior, strongly adherent to the bones, and forming a sort of felt possessing a great power of resistance, especially in the transverse direction, whilst the posterior layer was composed of longitudinal fibres, adhering but slightly to the chondro-sternal articulations. As the force of injuries generally acted from behind forwards through the ribs, and as the sternum forms an arch with its highest point at or near the junction of the manubrium and gladiolus, the greatest strain usually fell on the anterior ligaments, and when the segments had been separated by the rupture of these ligaments the gladiolus was carried forwards and upwards in front of the manubrium, and the end of the latter becoming inserted like a wedge between the posterior layer of periosteum and the body of the sternum, that layer was stripped up from the bone as far as, but no further than, the level of the third pair of ribs. Violence applied to the sternum in front, and occasioning fracture, caused the ends of the bone to be bent inwards, rupturing the posterior ligament, but not generally tearing the anterior layer.

The author differed from some of M. Maisonneuve's conclusions. M. Maisonneuve, without stating the number of his observations, placed the proportion of diarthrodial to amphiarthrodial joints as high as 3 out of 5, and found the diarthrodial joint more often in females than males. In children the diarthrodial joint was rare. The author's observations showed a preponderance of the amphiarthrodial joint and the greater frequency of the diarthrodial form in males than females. Out of 100 fresh sterna examined by him, 51 were amphiarthrodial, 6 ossified, 32 diarthrodial, and 11 of a mixed nature, the separation between the segments being incomplete. The diarthrodial joint was met with at all ages, and in very old people without a trace of ossification. The author had found it in old people between seventy and eighty years of age. On the other hand, the amphiarthrodial form was subject to ossification at a comparatively early age. The author had seen ossification at thirty-four and thirty-six years of age. He believed that the diarthrodial joint was formed by absorption after puberty.

M. Maisonneuve had ascribed to the clavicles great influence in causing dislocation of the manubrium, because fracture of the clavicle was often found accompanying the injury. The author attributed far more influence to the

first and second pairs of ribs, which were united to the manubrium much less movably than the clavicle, and must exercise more power over it both in forcible flexion and extension of the dorsal spine and in cases in which the violence is applied unilaterally. If a fresh specimen be examined in which the diarthrodial joint exists, or in which there is a tolerably thick symphysial cartilage, it will be found that, in addition to gliding movements forwards and backwards (varying much in degree in different specimens), some rotary motion is obtainable. This must favour displacement from unilateral violence; and it seems obvious that the first and second ribs must be chiefly concerned in giving the necessary twist to the manubrium. Two cases were referred to in illustration of these views. A man, forty-five years of age, fell from a plank about fifteen feet to the ground on to his back, the two upper dorsal vertebræ coming in contact with a piece of timber a foot square. Great pain was experienced at the upper sternal joint, and tenderness on pressure remained for several days, showing that the joint had been severely strained, although the force conveyed by the second ribs had been insufficient to occasion a dislocation. A man, thirty-six years of age, fell off a gate on to the back of his head and neck, the lower part of the neck coming into contact with a large stone. The fifth and sixth cervical vertebræ were separated, and the first left rib was separated from the manubrium. On examining the sternum it was found unusually thick, with the upper joint completely ossified. Under ordinary circumstances the force conveyed along the rib would have caused a dislocation or fracture of the sternum; but, owing to the unusual strength of the bone, the rib became separated instead.

A *résumé* of the main points concluded the paper, which was illustrated by specimens showing the two different kinds of joint and the effects of dislocation.

Dr. NORMAN MOORE asked if any of the patients whose cases had been recorded had suffered from emphysema of the lungs. In such cases a considerable bowing of the sternum was common. By dissection he had found the joint weakened, sometimes ossified. This too great bowing might predispose to fracture.

Mr. HOLMES said it was stated in the paper that contusion of the sternum by the chin might cause fracture. He would like to ask the author why he admitted that cause. Was there any reciprocal action on the tissues about the chin in the cases he had recorded?

Mr. BARWELL said he could not quite understand how the sternum should be dislocated backwards by the chin. He had seen a case where the bruise on the chin corresponded to one on the sternum. The man had fallen on the back of his head.

Mr. LE GROS CLARK said the association mentioned by Mr. Barwell was no satisfactory proof that the bones were separated by direct action. The violent bowing of the head is the ordinary cause, and must have occurred in those cases where the chin touched the sternum.

Mr. RIVINGTON, in reply, said he had not noticed whether the patients had suffered from emphysema of the lungs. If the bowing of the sternum existed, it would favour displacement. He did not think that the fracture of the sternum was caused by the direct action of the chin upon it, and only in the cases where the cervical vertebræ were separated could the head come down with great force.

Reviews and Notices of Books.

Traité Théorique et Pratique d'Hydrothérapie. Par le Dr. BENI BARDE. Méd.-en-Chef de l'Etablissement Hydrothérapique d'Auteuil, Lauréat de l'Académie de Médecine. Pp. 1008; avec Figures dans le Texte. Paris: G. Masson. 1874.

OF all the organs of the body there is none the functions of which are more persistently and completely disregarded by a large mass of the population, indeed it might almost be said by all except the upper classes, than the skin; yet its constituent glands, though individually small, collectively form a very large mass, and their importance is attested by the serious results that follow the complete abolition of their activity, as by varnishing the surface, or by the fatal consequences which ensue from exposure of any of the smaller and more actively respiring animals to air that has been contaminated by the exhalations from the body. Giving off as it does in a clean and healthy man, even in the resting condition, more than a pint of water and nearly an ounce of solids, besides a small proportion of carbonic acid per diem, it is surprising that it may be neglected with such comparative impunity, though the explanation may be in part afforded by the constant process of desquamation and renewal which its epithelial investment undergoes—a process that makes the skin of the general surface of the body of the grimiest dustman or coalheaver cleaner than the condition of the face and hands might lead one to expect. There cannot be a doubt that one of the greatest defects in our present sanitary arrangements, so far as the lower classes are concerned, is the inadequate supply of water accessible to them in the form of baths. That they will take advantage of it, even at some cost of time and trouble to themselves, is shown by the vast numbers that flock on warm summer evenings to the Serpentine, and we should be delighted to aid in forwarding any scheme that might enable the poorest in this great metropolis to bathe in running water at a trifling or no expense. At present all our baths are far beyond their reach; and, in fact, the price (sixpence or eightpence) of a first-class bath materially restricts their use, even amongst the well-to-do.

The employment of water in the cure of disease, or hydrotherapeutics, is consecrated by the use of the most remote antiquity. Moses recommends frequent ablutions to the people whom he led, and in the history of Naaman, nearly a thousand years before Christ, we have a striking instance of the cure of a cutaneous affection by bathing, due, according to some of the later commentators, to the presence of sulphur in the waters of the Jordan. Hippocrates recommends the employment of cold affusion in tetanus; Celsus, Galen, Paulus Ægineta, and the Arabian physicians, appear to have made but little advance in hydrotherapeutics, though in Rome at least the baths were large and greatly frequented. The middle ages are silent upon the subject. One of the first to awaken interest in it was our own countryman, Floyer, who wrote in the early part of the last century, and used cold- and hot-water affusions in various acute and chronic affections, but so indiscriminately as to incur the ridicule of the sober-minded and philosophic Haller. In the year 1786 Dr. Wright, also an Englishman, cured himself of a malignant fever by directing cold affusion to be used; and Currie of Liverpool, Gregory, and Jackson, adopted the same plan in different epidemics with great success.

It is difficult to explain the timidity with which practitioners have in general regarded the application of cold to the body in fevers—even its local application in the dressing of wounds being of comparatively recent introduction—and yet nothing would appear to be more natural than that when the temperature is above the normal it should be reduced by the application of cold. The objection to this plan of treatment has probably arisen from some unfounded apprehensions of producing congestion of internal organs, of its leading to rheumatic affections, together with false ideas of interfering with the elimination of the poison by the cutaneous surface. Of its utility in wounds and injuries of all kinds no doubt can now be entertained, and it is due in all probability to its fulfilling several indications: contracting muscular fibres, diminishing hæmorrhage, checking the formation of pus, depressing temperature, subduing pain, and generally lowering the active interchange of matter in the blood and tissues.

M. Beni-Barde divides his very valuable treatise into two parts—the first constituting the technical part, and comprising the history of hydrotherapeutics, a description of the apparatus and operative proceedings, and an examination of the physiological effects on the body; the second being devoted to the clinical study of this method of treatment, the diseases in which it may be employed, and the special measures to be adopted in each case.

In the chapter occupied with the account of the apparatus, we are astonished at the great variety of baths and appliances that have been introduced to meet special requirements. We have the wet sheet, the vapour bath, both with the mouth and head free, and with the whole body enclosed, the former being immeasurably the best arrangement; hot baths, with all their modifications of immersions, douches, sitz, vaginal, perineal, and footbaths, with the water cold and hot alternately, flowing or at rest, and followed by affusions, or frictions, or the application of dry warmth. No less than six varieties of douche baths are described—the douche en pluie; la douche à colonne; la douche à lames concentriques; la douche en nappe; la douche en cercles ou en poussière; la douche en jet mobile; and drawings are given showing their form and mode of action. Then follows an account of Chapman's ice-bag, the use of which he declares to be not always exempt from danger; and, finally, of the needle bath. A sketch is added of the proper arrangements for a large and for a private bathing establishment. Amongst the sitz-baths, or bains de siége, he describes various forms adapted for different purposes: thus one has a nozzle from which a hæmorrhoidal douche can be made to issue; in a second the patient sits in a kind of arm chair, and a douche can be applied to the lumbar region; in a third a pipe can be introduced into the vagina, and a uterine douche can be given; whilst in a fourth the perineal region can be subjected to the influence of a powerful current. In each case the temperature and the duration of exposure to the current are important points. In amenorrhœa, for example, the bath should be cold and limited to a few moments' exposure to it, whilst in diseases of the prostate it should be more prolonged, that the subsequent revulsive effect may be better developed. A still more powerful revulsive effect is obtained by employing successively cold and hot currents for equal periods, or by the Scotch method of applying a hot current for a considerable period after short exposure to a cold current.

In opposition to the plan generally adopted in Germany, M. Beni-Barde does not regard the production of profuse perspiration as the basis of hydropathic treatment, he only adopts it in certain well-defined cases. He thinks the principal effects of this method of treatment are attributable to an excitant action on the skin. In the great majority of instances the object to be attained is the elevation of the temperature of the body, and this elevation is of especial importance in certain forms of disease in which the patients are unable to take exercise, or in which there is a marked depression of temperature; external heat in bringing the blood to the surface allows the first impression of cold to be more easily supported, and, by awakening the nervous activity, disposes the system generally to reaction.

It is impossible to follow M. Beni-Barde through all the diseases for which he considers the hydrotherapeutic method a safe, appropriate, and successful kind of treatment, but it may interest our readers if we just enumerate them, and leave them to investigate for themselves, observing only that M. Beni-Barde appears everywhere to speak very sensibly, without an exaggerated idea of the importance of his special mode of treatment. He enumerates amongst those diseases that are likely to receive benefit from the hydrotherapeutic mode of treatment:—1. Constitutional diseases, such as gout, rheumatism, scrofula, anæmia, and scurvy. 2. Toxic and cachectic diseases, such as chronic alcoholism, saturnine and mercurial affections, diseases arising from tobacco, arsenic, and iodine, syphilis, intermittent and remittent fevers, cachexia, and Addison's disease. 3. Diseases affecting the locomotor system. 4. Diseases of the nervous system, to which five chapters are devoted. 5. Organic disease of the heart. 6. Diseases of the respiratory system. 7. Diseases of the digestive system. 8. Diseases of the urinary and generative organs.

In considering these affections successively, M. Beni-Barde usually gives a brief description of them, and proceeds to point out at once in what manner the hydrotherapeutic method of treatment can best be applied, how long it is to be used, and what effects are to be noted. In the case of rheumatism, for example, he observes that neither very hot nor very cold baths are of much service, the latter, in fact, being only well borne by strong and robust persons. The patient should first be treated in one mode or other, and then cold should be applied, by which means the skin is rendered very active, and the ill effects of prolonged cold are avoided. M. Beni-Barde considers warm water to be the best mode of applying heat, either in the form of baths or of the douche. The cold douche is then immediately given, the patient vigorously rubbed with dry warm towels, and directed to take a walk in the open air, or, if this be not possible, to execute passive movements. He does not appear to think hydropathy can do much for the nodosities of the smaller joints, so common in elderly people.

The weakest point about the hydrotherapeutic method of treatment is the length of time that in many cases it requires to be pursued before any permanent effects can be produced, and its consequent limitation to the wealthy. M. Beni-Barde, however, remarks that in many instances the treatment may be interrupted with advantage, and that, as the persistence of the beneficial action established in such *traitement fractionnée* becomes recognised, it will be more frequently recommended by practitioners to their patients. It is, however, satisfactory to find that it is very rarely injurious. In fact, he states that during the twelve years he has practised it he has known no instance where it has produced any harmful effects. The work, though very voluminous, and we imagine susceptible of great compression, is yet clearly and pleasantly written, and is well worthy of a place on the bookshelf of every practitioner. We should have liked to see a chapter on the best spas of Europe.

Half-Yearly Abstract of the Medical Sciences. Vol. LVIII. July to December, 1873. London: J. & A. Churchill.

WE confess that it is a subject of regret to us, as it must be to a large number of our readers, to learn that we are losing an old acquaintance, and that the present is the last volume of the Abstract. It is twenty-nine years since the first volume appeared, and the work has been of much real service to the hard-worked members of the profession in enabling them to be *au courant* with the progress of medical science during that period.

BEQUESTS TO MEDICAL CHARITIES.—The Devonshire Hospital, Buxton, has received £3384 4s. 3d., being the residue of the estate of Mrs. Robinson, of Elterwater Hall, Ambleside, and become entitled to £1000 under the will of Mr. Barnett, of Macclesfield, payable on the death of his widow. Addenbrooke's Hospital, Cambridge, has received £500 under the will of Mr. Pack. Mr. Andrew Jamieson, of Gloucester-square, has bequeathed £500 each to the Glasgow Royal Infirmary and the Glasgow Western Infirmary, and £200 to the Glasgow Lunatic Asylum. The Stewart Institution for Imbeciles, Lucan, has received £500 under the will of Mr. Alexander Findlater.

THE LANCET.

LONDON: SATURDAY, JANUARY 24, 1874.

IT has been alleged by some that from statistics we may prove anything. This is quite true, but in a double sense. By the employment of imperfect and inaccurate figures it is possible to arrive at false conclusions; while in the legitimate use of statistics the numerical method affords means by which we may deduce general truths in a most definite and certain manner. The conditions essential for accurate statistics of mortality are so numerous and complicated that it is perhaps almost impossible to thoroughly master them; and yet it is on the average results of statistics drawn from various sources that the question of the merits and demerits of surgical hospitals turns. Even from the same statistics two opposite opinions have been formed. Some have endeavoured to show that in the large "palatial" hospitals the mortality after operations, and especially after major amputations, "is in such hospital practice, when compared with rural practice, nearly four times greater." With these persons large hospitals are little better than slaughterhouses and plague-spots, which should be once and for all entirely abolished. Others, on the contrary, assert that the mortality after operations in the large hospitals is not greater, if it be not really less, than in rural practice. Statistics which are capable of bearing this double construction, and which have been so seriously impugned, are evidently faulty in some particulars, and cannot therefore be implicitly trusted. The fact is, that as yet we have no reliable data for the comparison of hospital practice as opposed to rural practice. This statement may be objected to on the ground that the late Sir JAMES SIMPSON collected a number of statistics sufficiently large to warrant a comparison of the results obtained in large hospitals and in country practice. But before any logical conclusion can be drawn from these figures, it must be proved that the conditions were alike or similar in every instance. The large number of cases which are sent from the country into the town, and especially the metropolitan hospitals, testifies to the extent to which provincial statistics are relieved. Not only is there this large annual exodus from the country into metropolitan hospitals, but the cases are generally extreme which are sent to the great centres as a *dernier ressort*. It may be true that it is not in this class of cases—the so-called pathological amputations—that the mortality is highest, but in primary and secondary amputations; but even in these cases, as Mr. ERICHSEN has shown in the lectures which we are now publishing, the mortality from pyæmia and the various forms of septicæmia is exceedingly high. But even in primary amputations the conditions in town and country practice are very different, and no comparison can be made between the robust agricultural labourer surrounded by favourable hygienic conditions, and the dissipated, half-starved gin-drinker of the metropolis. These examples may appear extreme, but they serve to illustrate the great dissimilarity that exists between the cases submitted to primary amputation in the country and those operated on in the town and city hospitals.

But it is not necessary to have recourse to statistics to obtain a *primâ facie* case against hospitals, for we know that the sanitary condition of a hospital and its mortality are in direct ratio. Even granting that hospitals are evils, it must be acknowledged that for the most part they are necessary evils, as the institution of cottage or village hospitals is impracticable in most large towns, and is totally impossible in London. The question at once, then, resolves itself into one of hospital administration, lay and medical, the indications being to obtain plenty of fresh air and an efficient staff of assistants. As the latter generally abound, especially in hospitals attached to medical schools, the subject matter is resolved, *per viam exclusionis*, into one of ventilation. This is, indeed, the great difficulty with which nearly all hospital surgeons have to contend. Notwithstanding the great advancement that has been made in the engineering and medical departments of sanitary science, it is too true that the ventilation of our hospitals is very seriously defective. Chemists have shown that the best mode of purifying foul air is to supply fresh air; and if we can regularly substitute fresh air for foul, there is no limit to our powers of combating the dire influence of septic gases in surgical wards. We may not yet know all the etiological conditions of pyæmia and septicæmia, but we have unequivocally the power of warding them off for any length of time by the administration of pure air—that is, by an efficient system of ventilation.

THE *Westminster Review* for the present month contains a long article of fifty pages on Medical Charity, which will serve to enlighten the public on this subject, or, at least, on one side of it. The article begins with a very good description of two kinds of charity: "one seeing clearly into the character and conditions of its objects, the other blind; one wise, the other foolish; one beneficent, the other injurious"; the one raising those whom it tries to help, the other degrading them and making them into paupers. We accept fully these definitions, or rather these distinctions. We should refuse the name of charity altogether to the blind article that degrades while it relieves. Still the questions remain, What really does degrade?—and do relief and help, merely because they are gratuitous, necessarily pauperise and degrade? The author has brought together a mass of evidence illustrating what he calls a new sort of religion of lots of men and women—a mania or an enthusiasm for piling up funds in excess of what is needed for carrying on hospitals and dispensaries, and adding to their investments. Considering that the principal members of the committees of hospitals and dispensaries are busy men—men who are multifariously engaged in business and in society,—it is curious that they should be always asking for more money than is needed for the reasonable wants of the present, and bothering themselves to make uncalled-for provision for the future. The probability is that this desire for money to invest really arises largely from the very fact that the managers are busy men, and have not time to spend year after year in hunting up the benevolent who give subscriptions, and who, according to the representation

of the writer in the *Westminster*, are so numerous and so foolishly ready to part with their money that the difficulty is to restrain them rather than to induce them to give. These busy managers like accumulated money on the interest of which they can depend; they do not like living from hand to mouth. Still, we agree with the writer in the *Westminster* in being disposed to be critical towards managers who are always investing and always asking dolefully for more. Our author says that the more doleful the asking the more certain is it that the process of accumulation is going insidiously on. It must be admitted that one rises from a perusal of this article with humbled views of the morality of the poor, who, or many of whom, are represented as repairing to hospitals and dispensaries largely for the sake of getting certificates of illness to be used for begging purposes, and of the managing committees who cook their accounts, who support hospitals for purposes of personal advantage, and who have a mania for operating on the sentimental benevolence of the public. One is disposed to think after such a perusal that true charity is a very rare quality, and, indeed, that it is even a very questionable virtue, which will not survive in a higher state of society any more than faith or hope.

Of 78 hospitals, 39, or exactly one-half, have invested funds, varying from £100 in the case of the Hospital for Diseases peculiar to Women, to £196,792 in the case of the London Hospital. Of 43 dispensaries, 12 have invested funds, varying from £300 up to £17,415—the happy case of the Surrey Dispensary, whose century of existence is enough to account for such a total on the supposition of very modest surpluses. It is only fair to say that, by the confession of the author, and as appears by a cursory inspection, the tables are very imperfect. The income of all the hospitals of the metropolis, supported by voluntary subscriptions, is estimated at £568,000; and that of the dispensaries at £32,000. In other words, according to the tables of the author, which probably do not err in the direction of exaggeration, £600,000 is expended in relieving 60,000 in-patients and 1,140,000 out-patients. The great points which he endeavours to establish are, that the sum expended is enormously in excess of what is necessary for the work done; that the work is badly done; that an increase, in the number of out-patients especially, is fostered by pauperising facilities and temptations until it has reached the number of 1,140,000. In regard to this point, of which our author makes much, of 1,200,000 gratuitously treated cases, one important explanation should have been made by him. It does not mean that there are as many distinct persons, or one-third of the population, as he reiterates again and again. It is quite probable that one patient was admitted three or four times in one year, and that the army of 1,200,000 "medical paupers," as he calls them, might dwindle down to 300,000 or 400,000, to say nothing of the fact that many of the dispensary patients included are members of provident dispensaries, and that in some degree others pay something even in free dispensaries and hospitals.

The author acquits Dispensaries, as a rule, of being extravagant—as he well may, seeing that 253,665 patients were treated by them with an income of £30,626, or at less than 2*s.* 6*d.* per head per year. He contrasts very forcibly with this the cost of the treatment of out-patients of hospitals. In his opinion, this is not more skilful, careful, or successful than the treatment of patients at dispensaries; but instead of costing 2*s.* 6*d.* per head or less, it costs 7*s.* 10½*d.* He quotes the oft-repeated tale of how out-patients are "cleared off" at the great hospitals by exhausted physicians or immature students. Some day, by the help of lay journals, this scandal will be realised, and public opinion must demand its cessation. As described by our own Commissioners and others, it is as unsatisfactory as it can be, yet it is estimated in the article we are commenting upon to cost £450,000, or £307,500 more than it should do if the out-patients of a hospital cost no more than the treatment of dispensary patients. Probably our author under-estimates the sum spent on in-patients, and by so much over-estimates that spent on out-patients. It is not safe to argue, as he does, from what is spent over patients in asylums to what is a fair cost for in-patients of hospitals. The cases are different. Still we agree with the author that it behoves subscribers to London hospitals to know how this enormous sum is spent. Unfortunately no less a portion of it than £124,000 is beyond the reach of any criticism but that of Parliament; for Guy's, St. Bartholomew's, and St. Thomas's have their income from endowments, and are disposed to snap their fingers at the well-meant criticism of the press.

Notwithstanding the bad way in which out-patients are seen, and the occasional phenomenon of a lady in her servant's clothes, this department might be conducted, in our opinion, with very little abuse and with great and real charity. There is a monotony of treatment of this subject. And though our author has amassed a great variety of evidence upon it, it is still viewed by him in a one-sided and somewhat hackneyed way. We want another investigation of it from the poor man's side. There is a want of realisation of the great amount of, not medical pauperism, as our author calls it, but what we shall call physical pauperism, which comes of wretched conditions and a chronically inadequate supply of the necessaries of life. Thousands who are never on the parish, and yet never feel well, feed the out-patient department, and are entitled to be helped.

If our author disputes our theory of the *physical* as distinguished from the medical or charitable origin of what he rather harshly calls a form of pauperism, let him refer to another article in the same number of the *Westminster Review* on the Working Classes, in which it is shown that on the 1st of July, 1872, "of 877,270 paupers on the roll, not more than 26,058 were male able-bodied adults"; and, further, that "the bulk of this latter number *were relieved on account of the temporary sickness of themselves or their families.*" The italics are those of the *Review*. We agree with the writer of the article on the working classes that "to brand all suffering from family and unavoidable sickness as paupers is unjust and cruel."

Further, we deny that all gratuitous help degrades. We believe that when the poor see a careful and kindly examination of a case, say, of a diseased child, it impresses them humanely, and tends to make them more careful and more considerate. By all means let providence be encou-

raged and every reasonable precaution taken against abuse. But do not let us underrate the malaise and the disease and general hardship that affect those who have to live in conditions in which so many die. The suffering of the poor and their patience are overlooked in the strictly financial and economic view of the question, which is so fashionable just now. It is a misrepresentation and a libel to say that real medical help and care can pauperise a needy man. Those who give these in a spirit of charity—and we still are old-fashioned enough to believe in such a thing—earn a power and influence over the recipient which very few can have, and which is more likely to elevate than to degrade.

Our position, then, is this: that, coincidently with the financial view of this question, and even more urgently, we need a view of it from the side of the sick poor, helping us to understand the effect of sickness upon them, complicated by the poverty which sickness surely brings with it. Until we have this information—which, in our belief, would be most creditable to the working classes, as showing wonderful patience and power of endurance—we cannot be sure that even half a million a year is too much for this rich and religious metropolis to give to succour the sick poor in their time of need, provided that the money is spent wisely, on fit cases, and in payment for good arrangements.

THE meeting of the Epidemiological Society on the 14th inst. will not soon be forgotten by those who had the good fortune to be present at it. Inspector-General MURRAY, M.D., the Nestor of retired Indian army physicians, entered the lists with the Sanitary Commissioner with the Government of India, Dr. J. M. CUNINGHAM, on the perennial question of cholera. The particular subject at issue was Dr. CUNINGHAM'S recent Report on the Cholera Epidemic of 1872 in Northern India, and it was a fortunate chance that the author happened to be in England at the time when Dr. MURRAY subjected this Report to a detailed criticism before the Epidemiological Society, and that he was able to be present. As our readers know, Dr. CUNINGHAM has given expression in this Report, as the result of his observations in India, and particularly of a series of observations conducted over a wide range of country in 1872, to opinions diametrically opposed to those commonly held in this country and Europe on the mode and media of propagation of cholera. In especial he repudiates the contagiousness of the disease, in whatever terms and form expressed, and the theory of its transmissibility through a water-supply. Not a little curiosity was felt to know how he would deal with European evidence on these questions, and this curiosity was largely gratified.

If felicity of address and the thorough-paced confidence of entire conviction could carry an argument, Dr. CUNINGHAM would be irresistible; and we sincerely trust that when he wrote the earnest sentences in his Report of 1872 against the evils of authority-worship, he had in view the adoration which must necessarily attach to himself in presence of his army of subordinates by reason of the endowments which charmed the Society. Alas for the immature and unsettled mind which may flatter itself with a hope of attaining philosophic freedom from bias under the personal teaching of Dr. CUNINGHAM! If the case-hardened epidemiologist of this country felt the influence of his manner, what must its influence be upon those over whom he reigns as chief.

But to the audience the discussion, in the true sense of the word, had hardly a place. It resolved itself rather into a curious psychological study. On the one side, Dr. MURRAY, keen, acute, fresh as if he had cast off his years, affirmed; on other side, Dr. CUNINGHAM, calmly confident, denied. The facts of the one where they clashed with the conclusions of the other were discredited. The experience and observation of the one were set against the experience and observation of the other. Even in the signification attached to technical terms there was no less discord. Contagion, which to Dr. MURRAY meant one thing, to Dr. CUNINGHAM had quite a different and peculiar meaning. Nay, the divergence extended even to modes of ratiocination; and while Dr. MURRAY insisted upon the primary value of affirmative evidence and the propositions formed thereupon, Dr. CUNINGHAM insisted upon the equal value of negative. It would almost appear, indeed, as if he seeks to found a new school of reasoning as well as a new school of etiology; for he set aside most modern European research and observation as untrustworthy, having sympathy seemingly with such of it only as, like his own experience, tended to negative results; and in reducing modern knowledge of the etiology of cholera to a negation he obviously believed himself to be facilitating inquiry.

Throughout the evening the affirmations of the one disputant were counterbalanced by the doubts and denials of the other; and neither seemed to be aware that, where no common term of understanding existed as to the signification of words or of facts, discussion was futile. Dr. MURRAY approached the questions in debate from a point of view commonly accepted in European schools; Dr. CUNINGHAM approached them from a point of view peculiar to himself. The "contagion" which Dr. CUNINGHAM spoke of was a quality unheard of before in modern medical science—a quality independent of conditions, self-operative—a very pathological Frankenstein. Studied in the light of such a conception, evidence of the importability of cholera, and indeed of any other contagious disease (as the term "importability" is understood in this country), must necessarily be negative; and this Dr. CUNINGHAM sees with sufficient clearness to avow that the arguments he urges against the contagiousness of cholera apply with almost equal force to small-pox. Similarly, in respect to the theory of the transmissibility of cholera through a water-supply, Dr. CUNINGHAM examines it through a conception of his own, having little in common with the theory as understood here. The discussion, in its first stage, inevitably reminded the listeners of the school-days story of the two knights who fought to their utter disablement upon the quality of the metal of a shield they were viewing, each observing it from different and opposite sides; but, in the later stages, it became evident that there was even a profounder difference between Dr. CUNINGHAM and Dr. MURRAY, and, indeed, between Dr. CUNINGHAM and English medical opinion, inasmuch as the former assigned his own interpretation to the matters he disputed—not the interpretations usually accepted.

Dr. CUNINGHAM spoke in well-considered phrases of the grave responsibility of his official position, as requiring from him an independent consideration of the questions which were at issue. But the conditions of scientific research are independent of official responsibility; and that these conditions have been rightly apprehended by Dr. CUNINGHAM is to be doubted. The listeners on Friday evening could not fail to note, in addition to fundamental misconceptions of existing doctrines, the different views he took of the nature of scientific evidence from that usually accepted in scientific circles. Dr. CUNINGHAM compared it to the evidence in a judicial process, a view which will hardly be accepted by logicians, but which may throw much light upon Dr. CUNINGHAM'S observations. The inquiry as to cholera made by Dr. CUNINGHAM in 1872 extended over a vast district peopled by many millions of people, of the greater number of whom little could be known as to their intimate states of sickness, and among whom the earlier movements of cholera must often escape observation. The official inquiry into the last outbreak of cholera in London, carried out with the aid of a complete registration of deaths among all classes, and a thorough knowledge of sickness among the very poor, took, we believe, about the same time as this inquiry of Dr. CUNINGHAM'S.

IN an interesting thesis "On some Points in the Physiology of the Brain" which has just been published, Dr. EUGÈNE DUPUY endeavours to support and extend the suggestion of BROWN-SÉQUARD that the cerebral hemispheres contain reflex and inhibitory, and not motor and sensory, centres. In the course of the argument many important questions concerning the functions of the brain receive special or incidental consideration, and amongst them the observations of Professor FERRIER on the effect of local stimulation of the cerebral convolutions. A skilled experimenter, formerly assistant to BROWN-SÉQUARD, Dr. DUPUY has repeated those experiments, chiefly upon dogs, and has further varied them in several ways. The results obtained agree in part, but in part only, with those of FERRIER; while the conclusions drawn from those results are very different. With FERRIER he finds that irritation of the convolutions produces local muscular movements; but, instead of the movement occurring in different regions when different convolutions are stimulated, he obtained movements almost the same at whatever point in the anterior or middle region of the brain the electrodes were placed. FERRIER found, speaking roughly, that stimulation of the superior external convolution produced movement of the paw, of the mid-frontal region contraction of the eyelid, of the parietal region movement of the ear, of the lower frontal and orbital regions movement of the tongue. Hence he concludes that in these regions there are actual centres for the movements obtained. DUPUY, wherever the electrodes were placed, whether on the frontal, parietal, or orbital convolutions, succeeded only in obtaining on slight stimulation movements of the opposite forepaw, which on stronger stimulation extended to the whole of that side of the body. The electrodes applied to the uninjured surface of the dura mater over the convolutions produced the same effect as when placed on the exposed convolutions themselves.

The reflection occurred to Dr. DUPUY,—Is the electrical stimulation really limited to the points to which the electrodes are applied? May it not be so diffused throughout the whole hemisphere as to affect directly the base of the brain, or even the nerves arising there? He had noticed that the muscles attached to the occipital and parietal portions of the skull, which had been separated from their attachments and nerves and turned aside in laying bare the skull, contracted at the same time as the forepaw when the electrodes were applied to the opposite hemisphere. Such contraction could only be explained by the direct action upon the muscle of conducted electricity. To ascertain whether such wide diffusion of the stimulus really occurred, he laid bare one-half of the brain of a dog, under complete anæsthesia, and applied to the posterior extremity of the hemisphere the nerve of a galvanoscopic frog, the legs of which were insulated on a plate of glass. The electrodes were then placed on the front of the hemisphere, and movements produced in the opposite forepaw. Simultaneously the legs of the frog were thrown into violent contraction. The strength of the current employed is not stated. Upon another dog, under partial anæsthesia, he divided with a fine curved scalpel the corpus striatum and optic thalamus on one side, the corpus callosum having previously been cut through. The electrodes were then placed on the convolutions above and behind the Sylvian fissure. Contraction resulted, when the current was strong, not only in the foreleg of the opposite side, but also in the hindleg. In another experiment he removed the whole cerebral masses above the pons Varolii, and applied the electrodes to the surface of the section. Muscular contractions resulted, limited to the fore limbs, right and left. From the smallness of the surface it was not possible to say whether these movements were on the side opposite to that stimulated, or on the same side. These results, many times obtained, Dr. DUPUY believes render it certain that the electrical stimulation, applied locally to the convolutions, is widely diffused; and that such diffused stimulation, reaching the base and there influencing the nuclei, the medulla, or the nerves themselves, will explain all the phenomena obtained by FERRIER and by himself on faradising the convolutions. Any differences in the results obtained when the application was made to different convolutions, he thinks, are due to the various facilities of conduction from one region to another, from certain convolutions to certain parts of the base of the brain.

The experiments are unquestionably of great importance, and deserve, as they will doubtless receive, repetition at other hands. The discrepancies between the two observers as to the varieties of movements produced have an important bearing on the main point at issue. It is certainly conceivable that the more uniform movements obtained by DUPUY may be due to an action of conducted electricity on the base of the brain. It is not, however, easy to believe that the varieties of movements which FERRIER can produce with such precision and uniformity depend merely on the paths of conduction of electricity, especially when similar results have been obtained in widely different animals by stimulating convolutions which may be regarded as homologous.

Besides the experiments which will compare strictly with

those of FERRIER, DUPUY has made many similar observations on animals under the influence of other toxic agents, strychnine, &c.; but the results obtained were apparently too much influenced by the effects of the particular poison to have much bearing on the questions at issue.

Medical Annotations.

"Ne quid nimis."

SURGICAL ANATOMY.

THE recent discussion of the merits and demerits of the examination for the Fellowship of the College of Surgeons caused us to scan with unusual interest the recent Surgical paper for the Membership examination, and we must confess to have been disappointed in it. The examination is ostensibly on Surgical Anatomy and the Principles and Practice of Surgery, and includes but six questions, of which the candidates *must* answer four at least. On the present occasion, however, not one of the questions referred in the most distant manner to surgical anatomy, and two of the questions related to such special subjects as diseases of the skin and eye. No one can deem a knowledge of eye diseases a superfluity for the student, though perhaps "staphyloma" is not the most urgently important affection a young surgeon will be called upon to treat; but when the whole range of surgery is open to the examiners, it does seem a pity to devote one-sixth of a Surgical paper to the "diseases of the skin usually grouped under the term Vesicular." Many of the vesicular eruptions would by most people be considered medical rather than surgical, and though they may on that account be doubly worthy of attention by those who are about to engage in general practice, we confess to thinking them out of place in a Surgical paper.

We hold that surgical anatomy should form a very important part of the pass examination for the membership of the College of Surgeons, so as to stimulate the pursuit of anatomy in relation to surgery amongst senior students. At present the second-year's student passes in anatomy, and straightway forgets what little he knew of the subject, so that at the end of his fourth year his anatomical knowledge is at zero, as we believe some of the College examiners could testify. A knowledge of minute branches of vessels and nerves is never of much service to the practitioner; but he ought, we think, to know, at least when receiving his diploma, the names of the bones entering into the formation of the several joints, the course and relations of the principal arteries and their anastomoses, and the nervous supply to the skin of different parts of the body. A paper such as that we have referred to is not calculated to foster a knowledge of this kind, and we think more care should be exercised in the selection of the questions.

CAIUS COLLEGE, CAMBRIDGE.

WE have read with considerable pleasure a report issued by Dr. Paget and Dr. Bradbury on the cause of the outbreak of typhoid fever at Caius College. In our report of Jan. 3rd we stated that the College authorities were doing all in their power to discover and remedy the evil, and had employed persons fully competent to carry out the investigations and necessary alterations.

It will be remembered that when the outbreak first occurred certain strong statements were made condemning the general sanitary arrangements of the College. We found those statements to be exaggerated, and we remarked that the sanitary arrangements were equal to most, and superior to many, of the colleges. We are pleased to find the authors of this report are equally satisfied in this respect.

In our report we pointed out the dangerous state of the town drains, especially that which passes the Caius new buildings in Trinity-street, and we suggested that the sewer gases entered the building from a defect in this drain. The report we now notice likewise points out this source of danger. It says that at the period of the outbreak "the sewer which passes along Trinity-street contained typhoid excreta, from cases in the town along that line of sewage, and emanations from these excreta might pass upward with the sewage air." When we consider that the syphon traps of the numerous rain-water pipes from the College buildings entering this drain were found empty, that these rain-water pipes are "interrupted at intervals to carry off the drip from the bay windows," and that their upper openings are below the level of the highest windows of the College, the entrance of sewer gas into the students' chambers can be readily explained.

Had the town drainage been of a more perfect kind, it is more than probable the College might have altogether escaped. But as the circulation of the sewage through the town drains is slow, owing to the imperfect fall and insufficient flushing, dangerous excreta remain for a long time in the same neighbourhood, and the chance of infection is consequently increased. Moreover, had the town drains been ventilated, the pressure of the sewer-gas would have been diminished within the drains, and would not have been diffused with such intensity through the College rain-pipes.

The College authorities deserve high praise for their conduct during this trying period. There has been no attempt to hush-up matters; they have not shirked any responsibility, but have instituted a thorough and searching inquiry, and have adopted the best methods for preventing all access of sewer-gas, from the dangerous town sewers, from entering the College. The public will cordially recognise this policy, and will readily accept the statement of Dr. Paget and Dr. Bradbury, that, as far as the College is concerned, every precaution has been taken against any future outbreak of typhoid fever.

THE MEDICAL OFFICER OF HEALTH FOR DALTON-IN-FURNESS.

WE noticed in THE LANCET of the 3rd instant that the Local Government Board had refused to sanction the appointment of Dr. Sydney Johnson, of Dalton, as medical officer of that district (in combination with Askham) on the ground that he was not in independent medical practice, but was acting as assistant to another medical practitioner. It had been proposed to give the medical officer of health a salary of £60 a year, and the Local Government Board had been asked to contribute half the sum. At the last meeting of the board a motion was made to elect a medical man residing at Ulverston to the post at the salary named, but it was met by an amendment to the effect that Dr. Johnson should be again elected, but at a salary of £30 a year only. In support of this amendment it was urged that the Local Government Board had the power of interference with the appointment solely if it was called upon to pay part of the medical officer of health's salary. By reducing the salary to the amount named the locality could itself pay the sum without asking for the assistance of the Government, and Dr. Sydney Johnson was quite willing to act for that sum. Indeed, a note was read from Dr. Sydney Johnson, in which he said, "I feel justified in offering my services as medical officer of health for your district for the period of one year,

for the moiety of salary paid by your Board—viz., £30, in which case the sanction of the Local Government Board will not be required." This amendment was carried by one vote, but the Askham representative gave notice that in all probability his district would not pay its part of such an arrangement. This decision of the local board of Dalton has turned to foolishness the previous action of the Board on the subject. We deeply regret to find that a medical man should have been found willing to accept a salary for the performance of duties which the local board had declared should be double the amount. It is not customary for sanitary authorities to pay salaries extravagantly in excess of the duties required from their officers, and, as one of the members of the Dalton board said, the board was not justified in giving a salary to its medical officer of health which it had already decided was too little by one-half for the work required from him.

THE TRANSMISSION OF SOUND THROUGH THE AIR.

To ascertain the conditions which determine the conduction of sound through the air, the "acoustic transparency and opacity of the atmosphere" was the object of a series of investigations undertaken by Professor Tyndall during the past year, the results of which he laid before the members of the Royal Institution on the 16th inst. Huge steam trumpets, steam whistles and guns, stationed on the South Foreland, were the sound-producing agencies. Soon, in apparently similar conditions, the most striking differences in the conduction of sound were observed. A sound which could be heard one day nine miles away, on another was inaudible five miles from shore, no alteration in the wind causing the difference. The explanation ultimately reached, after long investigations, which were related by the Professor in his most graphic manner, was that the acoustic transparency of the air depends essentially on its homogeneity, and that the most common and powerful influence disturbing this homogeneity is the presence of watery vapour irregularly distributed through the air. When this is greatest the acoustic opacity of the atmosphere reaches its maximum; as on one clear, hot day, when the signals were inaudible three miles from shore, until a cloud threw its shadow on the intervening water and the sounds were heard. Towards night they became more and more distinct, as the vapour separated from the cooler air, until at last they were forty times as loud as in the afternoon. In a beautiful experiment, twenty-five alternating layers of coal-gas and carbonic-acid gas obstructed the sound of a bell, so that a sensitive flame which remained unchanged when air alone intervened fell at once in response to the tinkle. In fogs, when the air is full of condensed vapour and contains but little uncondensed, sound is conducted well. During the last London fog, the Professor found that in Hyde-park sound was conducted four times further than when the fog had passed away. The conditions of acoustic and optical transparency are often thus reversed, and when the air is densest to the eye it may be clearest to the ear.

DOCTORS AT FUNERALS.

A MEDICAL correspondent of the *Manchester Guardian* calls attention to the serious inconvenience suffered by members of the medical profession in being expected to attend the funerals of deceased patients. Often, no doubt, the invitation is merely a matter of routine on the part of the undertaker; but sometimes the doctor is bidden by mourning relatives, because he has been the best friend of the deceased and of his family during a long and tedious illness, and they would fear to hurt his feelings by omitting him from the ceremony. In the former case, probably no one who is otherwise professionally engaged scruples to absent himself, or perhaps makes his carriage do duty for himself; but in the latter case, no man of feeling can well refuse to join the train of mourners even at great inconvenience to himself and possibly to others. The salutary practice of extra-mural interment has done much to add to the troubles of doctors in this matter, for whilst in country places the churchyard of the neighbouring village is still "God's acre," in London and other large cities the distance to the suburban cemetery is often great, and many valuable hours are taken up in going to, and returning from, the ceremony.

The feeling of modern times is, we are happy to know, in favour of diminishing rather than increasing the pomp and cost of funerals. Dickens never did a better public service than when he satirised the folly of modern funerals by the mouth of the "Raven" of *Household Words*, and he set a good example by the directions he left for his own funeral. His description, too, of old Chuzzlewit's interment, with the doctor who "looked as distant and unconscious as if he had heard and read of undertakers, and had passed their shops, but had never before been brought into communication with one," is a fine piece of satire, not undeserved possibly at the time it was written. We believe that all doctors of the present day hold attendance at a funeral to be an unmitigated bore, and it would be as well therefore that the public generally should understand that the absence of an invitation to take part in the last obsequies of a patient would not be regarded as a slight. Presentation scarves and hat-bands are, we hope, quite out of fashion, but they used to offer a means of showing attention to the medical man without trespassing upon his time—a result less satisfactorily gained, perhaps, by the modern undertaker's card *in memoriam*.

UNIVERSITY COLLEGE HOSPITAL.

ON Wednesday last Mr. Christopher Heath applied a ligature to the left carotid of a patient who had been for some months under treatment for an aneurism of the root of the neck—presumably of the innominate and arch of the aorta. The right subclavian artery had become obstructed before the patient's admission to the hospital, but notwithstanding this the disease continued to make progress, giving rise to great dyspnœa at times and some dysphagia. Digital compression of the right carotid had been tried systematically without effect, and as a last resource Mr. Heath determined to tie the left carotid. In this decision he was guided, he informed his class, by the successful issue of a somewhat similar case in which, two years ago, he tied the left carotid, the patient having been immediately relieved, and the aneurismal symptoms having greatly subsided. This patient has been brought before the Clinical Society on two occasions, and was also exhibited by Mr. Holmes at the College of Surgeons in June, 1872.

The patient, who had some difficulty in lying on his back, was carefully put under the influence of chloroform by Mr. Rigden, and the artery was tied by Mr. Heath above the omo-hyoid without any difficulty, except that arising from a large anterior jugular vein, which was tied and divided early in the operation. A catgut ligature was applied, and the wound closed with wire sutures. When this was completed, however, the patient's breathing became greatly embarrassed, and the face congested, and we regret to learn that he sank two hours afterwards.

At the post-mortem examination made on Thursday, the aneurism was found to spring from the bifurcation of the innominate, and to have passed behind the carotid, trachea,

and œsophagus almost to the left carotid. The bodies of the third and fourth dorsal vertebræ were eroded. The right subclavian artery was blocked close to the aneurism, and the right jugular vein obstructed. The left carotid had been cleanly tied, and injected fluid would not pass through it. The brain was very anæmic, and there can be no doubt that the unfortunate result was due to cutting off the supply of blood from the brain, though the wall of the aneurism was so thin that it must shortly have given way and caused the patient's death.

THE CAMEROONS AS A SANATORIUM FOR THE GOLD COAST.

THE suitability of the Cameroons Mountains as a sanatorium for our invalids from Cape Coast has again been brought forward by a correspondent of the *Liverpool Daily Post*. Captain Burton, it will be remembered, suggested that the fine climate of the Peak of Cameroons, with its 13,000 feet of altitude, might be turned to account for the sick of the West Coast of Africa. Mr. George Thompson, it appears, has succeeded in cutting his way considerably above the fever height and in establishing a hut-house there. The climate is described as splendid. Mr. Thompson's object is to establish a sanatorium for the use of the many missionaries who labour at Old Calabar, Cameroon's River, Gaboon, and elsewhere on the West Coast of Africa. We imagine, however, that the difficulties in the way of utilising this place for invalids from the Ashantee expeditionary force would prove insuperable. We make no doubt that the climate of the Cameroons might, as regards the stations at its feet, prove as invigorating and useful as the hills are to the plains of India, but the maintenance of a mountain sanatorium at anything like such an elevation would, we suspect, prove a costly undertaking. If it is intended to maintain a large force on the West Coast of Africa, the suggestion might, however, be worth entertaining. The range of hills in the vicinity of Accra possesses a healthy climate, as has been proved by missionary experience, and their position is more accessible.

WORKHOUSES AND HOSPITALS.

AT a recent meeting of the Bethnal-green Board of Guardians, a letter from the authorities of the London Hospital was read, calling upon the guardians to pay the sum of 1*s.* 6*d.* per diem for the maintenance of a patient who had been sent to that institution from the workhouse to undergo a surgical operation. The chairman took occasion to make some strong remarks upon the course pursued by the resident surgeon of the workhouse in sending these cases to the hospital directly they appeared likely to give him trouble, especially after he had, upon his own application, been furnished with instruments at the cost of the guardians in order that he might be able to deal with them. In the end it was resolved that no more patients should be sent to the hospital without the sanction of the board.

We must leave the guardians and their medical officer to arrange their mutual relations, but it appears to us rather hard upon the latter that he should be expected to undertake every operation in surgery, as would seem to be implied by the conduct of the guardians. A very able resident medical officer of a workhouse may not be justified in undertaking by himself an important or complicated operation, which may be fairly enough done by a hospital surgeon with plenty of assistants and every convenience at hand. And yet the patient may lose his life or become permanently disabled unless the operation is performed. The case opens up, moreover, the very important question of payment by parishes to charitable institutions. It is new to us that a hospital should demand payment from a parish for a pauper patient, and we should be glad to know whether there are special arrangements between the authorities of the London Hospital and the surrounding parishes on the subject.

THE CAMBRIDGE IMPROVEMENT COMMISSIONERS AND THE LOCAL GOVERNMENT BOARD.

AT a meeting of the Improvement Commissioners, held on Tuesday, January 13th, a letter was read from the Local Government Board, stating "that the reasons which had been put forward as to the non-proposal to appoint a medical officer of health were insufficient to exempt the Board from making such an appointment, and requesting the Board to proceed with the appointment forthwith."

In our issue for January 10th we commented strongly on the fact that no responsible authority existed in Cambridge who was empowered to give warning when epidemic diseases were prevalent in the town, or to enforce the most ordinary precautions. As the appointment is now forced on the Commissioners, we hope they will make a merit of the necessity by securing the services of an able and well-trained man.

We are also informed that a medical inspector from the Local Government Board intends shortly to visit Cambridge. If he can persuade the Commissioners to improve their present system of drainage, divert their sewage from the river, and close all polluted wells, Cambridge will speedily become, from her natural advantages, one of the healthiest towns in the kingdom.

MEASLES IN LONDON.

IT appears that there is still a considerable amount of measles in the metropolis, two medical officers of health, Dr. Lankester and Dr. Whitmore, having in their last reports drawn attention to the prevalence of the disease. Dr. Lankester has asked the Vestry of St. James's, Westminster, to instruct him to issue handbills throughout the parish containing practical hints and directions to be pursued by mothers in the event of measles appearing in a house. We commend this suggestion, and anticipate much good should it be adopted. Measles, pure and simple, is eminently a complaint amenable to judicious nursing and care. The main indications to be pursued in an uncomplicated case are to give the child a low diet, with demulcent drinks, and to ensure an equable temperature in the sick room. Should untoward symptoms supervene they should be treated as they arise by the medical attendant. Several specifics or prophylactics have been vaunted for the prevention of measles, such as inoculation, the internal use of sulphur, &c. None of these means, however, are worthy of reliance. In an epidemic of the disease it is always of paramount importance to rigidly examine the conditions of schools and places where children congregate, and as far as possible to check the attendance of children coming from infected or suspected neighbourhoods.

A PHARMACY ACT FOR IRELAND.

A DEPUTATION from the Apothecaries' Hall and the Chemists and Druggists' Association of Ireland waited upon the Chief Secretary for Ireland last week, for the purpose of urging on the Government to pass a Pharmacy Bill similar to that existing in England. At present the licence granted by the Apothecaries' Hall entitles the holder not only to compound medicines, but also to attend professionally. What the deputation wished was to obtain the power of granting separate pharmaceutical licences without

the power to practise medicine. The proposed measure is one of necessity, and has been approved by the General Medical Council. The Marquis of Hartington suggested that the matter should be placed in the hands of a private member, and mentioned the name of Sir Dominic Corrigan; but ultimately promised that, on communicating with the Medical Department of the Privy Council, and if he saw his way to the passing of such a Bill, he should be glad to introduce the measure desired.

DR. HOME, V.C., C.B.

IT is with extreme regret that we have heard this officer's health has broken down, and that he has been compelled to relinquish his post as the principal medical officer of the expeditionary force on the Gold Coast. Dr. Home has had several attacks of fever, and these have of late so affected his constitution as effectually to prevent him from undertaking the march to Coomassie, and he is now on his way to this country, invalided by a medical board. His loss will be very severely felt by all concerned in the expedition. It is not too much to say that whatever measure of success may attend the Ashantee expedition, will be greatly attributable to the zeal, energy, and foresight of this officer. We readily realise the great disappointment and chagrin he must necessarily feel in having to resign his post, after having gone through "the heat and burden" of the day, and fully prepared everything that his well-known ability and indefatigable exertions could provide for the sanitary success of the campaign. It is understood that Surgeon-major Mackinnon, C.B., will succeed Dr. Home; and if so, he may be congratulated on having reached the Coast just in time to run the medical engine along the line, both of which have been organised by his predecessor.

PORT SANITARY WORK.

As cholera still prevails at Rotterdam, the Port of London Sanitary Committee of the Corporation have directed their medical officer to keep up a continuous surveillance of all arrivals in the Thames from that city, and the Customs authorities at Gravesend are equally vigilant in their examinations. There are four or five regular steamships trading between this port and Rotterdam, and the case of cholera that occurred in Limehouse some weeks ago showed the necessity of adopting and maintaining all possible precautionary measures.

The Port of London Sanitary Authority have also, during the past week, issued an official notice, requesting all owners, agents, and masters of ships not to land any clothes or other effects of deceased seamen who have died abroad or afloat of any contagious or infectious disease until notice has been given at the Health Offices at Deptford, to Mr. Harry Leach, the port medical officer, in order that, if necessary, such clothing, &c., may be disinfected. We commend this and other restrictions that have been issued from time to time by the City Corporation to the notice of health authorities at the outports, and shall await with interest the report of all that has been done, and is about to be done, by the Thames sanitary authority.

MORTALITY IN FRIENDLY SOCIETIES.

DR. J. C. HALL, of Sheffield, in his capacity of treasurer of the Funeral Fund of the British United Order of Oddfellows in Sheffield, contributes to the last Quarterly Journal of the Order a paper in which he expresses his opinion that more care should be taken in the admission of members throughout the lodges. Observing from the returns of deaths the early ages at which both male and female members have died, and the large proportion of fatal cases of consumption, Dr. Hall asks why the Oddfellows should not take a lesson from the life assurance offices, and institute inquiries in every case as to the personal and family history of proposed members. Are we by this to understand that as a matter of fact no such inquiries are made now, and that friendly societies exercise no principle of selection whatever? If so, the wonder is, not that some of them are in difficulties, but that all do not collapse. With reference to prospective legislation resulting from the labours of the Friendly Societies Commission, Dr. Hall is opposed to State interference in the management of the societies, but he hopes that the State will be able to issue tables by which the death-rates and sick pay may be estimated upon a basis of safety not realised at present.

A HOSPITAL SUNDAY FOR DUBLIN.

AT last we may expect that Dublin will have a Hospital Sunday. Last week an influential meeting of the citizens of Dublin, under the presidency of the Earl of Meath, who has taken a warm interest in the matter, was held at the Molesworth Hall, and it was finally determined that the third Sunday in next November should be the day selected for the simultaneous collections. It is deeply to be regretted that Cardinal Cullen is antagonistic to the movement, and has refused to lend his assistance to the charitable work. A council consisting of fifty members will be appointed, who will select a committee to distribute the funds collected at the various churches. It was wisely suggested by Dr. Churchill, and resolved, that the grants to the various hospitals should not depend alone upon the subscriptions, but also upon the work done during the past year. It should depend, we may add, upon the necessity any hospital may have for funds, and whether it has endowments or derives a certain amount from public grants. We wish the organisers of this movement every success in their charitable undertaking.

ADULTERATION OF BUTTER.

AN interesting paper was read by Dr. Meymott Tidy, at the meeting of the Associated Medical Officers of Health, on Saturday, the 17th inst., on Butter and its Adulterations. Most of the subject matter was a *repliqué* of the various modes adopted in the analysis of this article, but the author supplemented these with several valuable hints, which should be useful to all concerned in carrying out chemically the provisions of the Adulteration Act, which Act, by the way, will, we fervently hope, receive some consideration at the hands of Parliament next session, with a view to its amendment and reconstruction.

WATER-SUPPLY OF TORQUAY.

IN a little pamphlet Mr. Edward Smith, F.C.S., of Torquay, has given an account of the water-supply of that town, which is no doubt satisfactory to the local authorities as indicating that the £68,000 they have laid out in the works have been well invested in the interests of the inhabitants. Springing at its source from the granite, the water is stored in a reservoir at Tottiford, which is elevated some 800 feet above the sea, and contains over 60,000,000 gallons; gravitation does all the needful work of conveyance to the service-reservoirs of the town. Mr. Smith has subjected the water to a close analysis, with the following results expressed in grains per gallon:—Soda, ·653; lime, ·595; magnesia, ·287; chlorine, ·795; sulphuric acid, ·640; iron, alumina, and silica, ·552; carbonic acid, ·323; suspended matter, ·805; total solids, 4·650. There was not a trace of either nitrous or nitric acid. Of hardness the proportion was ·61° (Clark's), the ordinary well-water in

Torquay varying from 14° to 18°, and upwards. The amount of nitrogenous organic matter was ·0060 gr., reckoning ·0058 gr. as albuminoid ammonia.

OVERCROWDING IN WORKHOUSES.

AT the last meeting of the St. Pancras guardians, a letter on the subject of overcrowding in the workhouse, which at present contains forty-seven more inmates than the building is certified to hold, was read from the Local Government Board. The Board objected to the practice of the guardians of directing their medical officers to treat sick paupers as much as possible in their own homes, such a system being opposed alike to the interests of the poor and of the ratepayers. Cases of illness should be sent to the Highgate Infirmary, and all able-bodied paupers should be transferred to Poplar. Should these means fail in diminishing the number of inmates in the workhouse, the Local Government Board suggested that the guardians should hire temporary premises for the reception of paupers. In the discussion which ensued on the reading of the letter, it was proposed that the Small-pox Hospital, which is now, we believe, empty, should be utilised for the purposes of the guardians. The hospital is in the jurisdiction of the vestry, and we doubt whether there is sufficient *entente cordiale* between the two bodies to permit of such an arrangement, and against which many objections might be urged. There is one other and easy course open to the guardians—that of boarding their surplus poor in neighbouring workhouses.

WESTON-SUPER-MARE HOSPITAL.

THIS small institution seems to be in a flourishing position financially as judged by the report presented at the annual meeting of subscribers, but a difficulty has arisen respecting the mode of admission of patients. The medical staff, represented by Dr. Gourlay, proposed to give the medical officers the power of admitting in-patients without subscribers' letters, and that there should be no restriction as to the time of detention or dismissal of patients. The usual arguments in favour of subscribers' letters were brought forward by some of the lay governors, one of whom thought subscriptions would be withdrawn if the beds were full when a subscriber wished to recommend an in-patient. In the end, however, the proposition of the medical men was carried, and we congratulate the charity upon it; for nothing tends to the good working of a hospital more than the admission of suitable and the exclusion of unsuitable cases for medical or surgical treatment. No one can better judge of the real necessities of a case than the medical officers, and no subscriber need, we feel sure, fear the rejection of any one he recommends, if the case is one likely to be benefited by hospital treatment.

THE PREMIER.

MR. GLADSTONE'S ailment was bronchial irritation, with loss of voice, and slight fever. Under the care of Dr. Andrew Clark, the distinguished patient has been able to leave his room, and will shortly resume his ministerial duties.

AT the twenty-fifth anniversary meeting of the Weymouth Sanatorium, the Mayor, in alluding to the services of Dr. Smith to the institution, took the opportunity of conveying to him the thanks of the whole town for the great kindness and zeal he had shown in the erection and administration of the building. It afforded the Mayor sincere pleasure to recognise in his public capacity the great good which Dr. Smith had done in the town.

THE *Metropolitan* reports a meeting of the guardians of St. George's, Hanover-square, at which an important circular from the guardians of the Merthyr Tydvil Union, on the subject of out-door relief, was read. The document contained resolutions to the effect that the law of out-door relief, as at present existing, tended to demoralise the recipients; that in-door relief only should be charged upon the union, the out-door relief being charged either upon the county or the Consolidated Fund; that a memorial embodying these views be sent to the Local Government Board, and a petition be presented to Parliament praying for an alteration of the law. Finally, the Merthyr guardians see no objection to the repeal of the law for the removal of paupers. We shall be curious to see what the metropolitan bodies will have to say about this circular.

THE East-end of London has lately had a death-rate which compares most favourably with that of other and wealthier parts of the metropolis. Although the week ending December 20th was the most fatal since the cholera year of 1866, Dr. Rygate, medical officer of health for St. George's-in-the-East, shows that the mortality of his district during that period and the preceding week was only two in excess of the average for the past twelve years. Considering that the population of St. George's is mainly composed of the poorer working classes, the sanitary authorities of the parish may be congratulated on their health returns.

IN spite of the opposition on foot against asphalte pavement, the various companies interested in the success of the material appear sanguine that under certain conditions, such as frequent washing and cleansing, it will yet be found the safest and most durable roadway. So far it certainly appears to be a failure, chiefly on account of its slipperiness. With a view of obviating the latter drawback, the asphalte promoters are now about to offer a prize for the best method of ensuring non-slipperiness and cleanliness in the pavement.

THE "lungs of London," as her open spaces have been called, still need expansion, and we are glad to see a proposal that the considerable piece of ground between Drury-lane Theatre and Long Acre should be utilised as a playground for the children of that densely-populated neighbourhood. Formerly a graveyard, the plot in question, if properly laid out, will undergo a salutary transformation from a receptacle for the dead to a recreation-ground for the living.

WE lately reported the decision of the Home Secretary in respect of the payment of fines under the Adulteration Act. The decision does not appear to have given general satisfaction. The vestries are already agitating in the matter, and intend to memorialise the higher authorities, praying that in the proposed amended Bill a clause may be introduced providing that the fines under the Act shall be paid over to the parochial bodies, and not to receivers of police.

THE Town Council of Brighton has elected Dr. Taaffe medical officer of health for the borough at a salary of £200 a year. Dr. Taaffe was formerly a partner of Sir Cordy Burrows, and has had a seat in the Town Council. He at present holds the appointments of physician to the Brighton Hospital for Sick Children, and surgeon to the Eye Infirmary.

DR. LANKESTER, medical officer of health for St. James's, Westminster, reports that the rate of mortality in his district has lately been higher than in any period during the last eighteen years.

AN addition to the sanitary resources of London, suggested years ago by THE LANCET, will be completed next May, in the form of a floating swimming-bath moored on the site of the late Hungerford Bridge. The bath, built of glass and corrugated iron, will be light and graceful in appearance, and will accommodate 1200 swimmers at one time. A second bath, of still larger dimensions, is being constructed in Pimlico, and will be ready in June.

THE mortality in Preston has lately been very high. During the quarter ending 31st ult. the deaths were greatly in excess of the births. At a late meeting of the board of guardians it was stated that there were in the workhouse nine cases of typhoid and scarlet fever, ten cases of small-pox, and twenty-six of measles, the latter disease being unusually prevalent.

THE Siamese Twins—whose joint-stock partnership in life (commenced before the days of "limited liability") gave point to so many allusions, political and social—are now no more. They died at their residence in North Carolina on the 17th inst., at the age of sixty-three. Eng survived Chang two hours. We shall give particulars of their death in an early number.

ON Tuesday, the 13th inst., a complimentary banquet was given to B. Barrow, Esq., J.P., F.R.C.S., consulting surgeon to the Isle of Wight Royal Infirmary, as a mark of the respect in which he is held in the town and neighbourhood. The attendance was very large, and all the most influential gentry and tradesmen were present.

WE believe that the rumoured diminution of the official salary of the Director-General of the Army Medical Department is without any foundation. Considering that the post is already about the worst paid in the world, a rumour to an exactly opposite effect might possibly be nearer the truth.

IN consequence of the great number of children now under medical treatment at the Norwood schools of the Lambeth guardians, it has been decided to suspend the order for fresh admissions into the school.

DR. BRADBURY, Linacre Lecturer, Cambridge University, will resume his lectures on pathology on Tuesday, the 27th January. The lectures will be delivered on the same day throughout the term.

DR. J. BRAXTON HICKS has lately been elected an Honorary Member of the Obstetrical Society of Philadelphia.

BLOOD-STAINS.

A COMMISSION composed of several eminent physicians has recently, at the instance of the Medico-Legal Society of Paris, made an investigation and supplied a report on the tests for blood in blood-stains. The report appears in the "Annales d'Hygiène" for July, and a good translation has been made of the paper by Dr. Denig, which has been published in the *Cincinnati Lancet and Observer* for October. The examination of a blood-stain may be divided into three parts—the histological, the chemical, and that by means of spectrum analysis. As regards the histological investigation little need be said. The form and size of blood-globules in man are so characteristic that if any of the blood can be obtained in the fluid state no difficulty should arise in their determination; fortunately also they preserve their characters to a great extent when dried, and if treated with appropriate reagents they may then be also easily recognised. To this end it is important that the addition of pure water should be avoided, as the corpuscles swell up and become invisible. The little speck or clot should be allowed to macerate in some fluid similar to the serum of the blood, of which a good imitation may be made by dissolving four parts of chloride of sodium and three hundred parts of white of egg in twenty-seven hundred parts of water. Another fluid is the iodised serum of Schultze, which is made from amniotic liquor to which a few drops of tincture of iodine have been added. A solution of one-half per cent. of common salt in distilled water is also a good menstruum. When minute clots have been macerated according to their age, from a few minutes for a recent speck to a day or two for one of some years' standing, they become discoloured, and the presence of *fibrine* and *white corpuscles* may then be recognised under the microscope. Even when the red corpuscles can no longer be discerned, but more satisfactorily if some of the fresh blood can be obtained, its presence may be determined by means of the spectroscope. If a few drops of blood be added to a little water, so as to confer upon it a delicate peach-blossom colour, and the tube be fixed in the opening of the spectroscope, the luminous rays of the spectrum which pass through the liquid present two bands of absorption between the lines D and E of Fraünhofer in the yellow and green. These bands are the same as those that occur with a solution of the crystals of hæmoglobin. On the addition of reducing agents, as hydrogen, or tartrate of the oxide of tin, to the blood, the spectrum of reduced hæmoglobin is obtained, characterised by a single absorption-band as large as the two bands of unreduced hæmoglobin, and commencing a little to the left of the line D of Fraünhofer. The next proceeding is to obtain crystals of the chlorohydrate of hæmatin. A little of the blood is placed on a glass slide, and dissolved by the addition of a drop of water, and an exceedingly small quantity of chloride of sodium is then added. A thin glass cover is then superimposed, and a little glacial acetic acid is allowed to penetrate beneath the glass cover. The slide is held over a spirit-lamp to the point of ebullition under the microscope; highly characteristic crystals will now be seen, or if not, a little more acid may be added, and the heat reapplied. The crystals are small, rhombohedral, and of a dirty-brown colour, and with a little practice can be obtained from a quantity of blood scarcely recognisable by the naked eye.

Finally, resort may be had to the chemical test with tincture of guaiacum. For this purpose a tincture of guaiacum is prepared by digesting a portion of resin, taken from the centre of a large piece, in alcohol of the density of 80°; in another vessel some binoxide of hydrogen (antozone) is mixed with some pure sulphuric ether and preserved in a cool place secured from light. When the tissue on which the suspected spot is situated is white, and can be washed, it should be placed in a small capsule of glass or porcelain, and moistened with a little cold distilled water in order to entirely dissolve the stain. The liquid is then decanted, and a few drops of the tincture of guaiacum and ozonised ether are then added. When blood is present the liquid immediately acquires a blue or greenish-blue colour. The suspicious stains are not unfrequently found on vestments of different colours and material which deprive them of their characteristic brown appearance, or render them nearly invisible. When such is the case, or they have been imperfectly washed out, Dr. Taylor recommends the following method of procedure:—The suspected portions of tissue are moistened with distilled water. Two or three sheets of white blotting-paper, previously tested by the guaiac process, are forcibly pressed on the moistened surface over the spots. If they be due to the colouring matter of the blood, a stain of a red or a yellowish-red tint is communicated to the paper. A few drops of the guaiac tincture should now be allowed to fall on these spots on the paper. Should a blue colour immediately become manifest, the presence of blood is doubtful, and a physico-chemical examination must be made both with the spectrum and search for hæmatin crystals in order to determine the absence or presence of blood. If, on the other hand, the stains on the blotting-paper undergo no change in colour on the addition of the tincture of guaiacum, a few drops of the ozonised ether are poured on. As in the former case, if blood be present the stain on the paper will acquire a blue colour, varying from a pale sky-blue to a deep indigo, in proportion to the amount of blood present. It must not be forgotten, how-

ever, that the presence of nasal mucus, saliva, or pus will give rise to similar results. Should, however, no colour manifest itself after the successive employment of both the guaiac and the ozonised ether, the stain on the cloth or other substance is not due to the colouring matter of the blood. It will thus be seen that in any suspected case, in order to arrive at a definite conclusion in regard to the presence of blood, the expert should always in the very beginning divide the matter at his disposal into four parts, using the first in histological analysis, the second for spectral, the third for the production of crystals, and the fourth for Taylor's guaiac process.

THE GOLD COAST.

THE daily papers have contained such full accounts of all that has taken place in connexion with the Ashantee Expedition that our information has been in a very great measure forestalled. The doctors' and engineers' war appears to be progressing most favourably so far, and the tone that is now adopted in reference to the prospects of the campaign has undergone a complete change. It must not be forgotten, however, that the most difficult part of the expedition has just commenced. We have never shared the apprehensions that have been so generally entertained as to the health aspects of the campaign; on the contrary, we have always expressed the conviction that if the Expedition were carried out in the way and under the conditions which we have indicated, it need not be attended with any disastrous results, as far as the health of the troops is concerned. The main difficulty of the undertaking, which is only now beginning to be realised, is that of transport and commissariat beyond the Prah. The old maxim must never be forgotten, that an army "marches on its belly"; and the difficulty of feeding the European force on the march from the Prah to Coomassie will be very great. Large supplies of all kinds are present at Prahsu. Beyond that the force must advance very slowly and cautiously, "feeling" the enemy, as it is termed. By this time the invasion of the Ashantee territory beyond the Prah is a fact, and the news by the few next succeeding mails will be anticipated with great anxiety.. That Coomassie will be taken we have no doubt, and if our reasonable expectations are to be fulfilled, the European force will have re-embarked and left the coast before April, when the advent of the rainy or unhealthy season may be expected. We are very glad to observe that the admirable arrangements on board the hospital-ship *Victor Emanuel* met with approbation at Sierra Leone, and we think the medical officers on board exercised a wise discretion in taking every precaution against the risk of infection from the shore. The shipping and invaliding arrangements appear to us excellent and adequate to the requirements of the service, and, as we understand, they have since been supplemented by additional transport vessels sent from this country, to meet the possible outbreak of yellow fever, and the consequent necessity for the rapid removal of all Europeans. The instructions promulgated by Sir Garnet Wolseley in his general order, as far as regards the sanitary precautions and suggestions which he has laid down, are very clear and practical. They embrace all the points on which we have so frequently dwelt. It is very reassuring to us to have our opinion confirmed by such undeniable authority, that the climate is much better and more pleasant in the interior than on the seashore; and, if ordinary precautions are taken, there is no reason why any of the troops should suffer in health during the few weeks that they may have to remain in the country.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—At the quarterly court of directors, held on Jan. 14th, the president (Dr. Burrows) in the chair, £1266 10s. was distributed to fifty-eight widows and twenty-four children. The expenses of the quarter amounted to £57 18s. 3d. Fresh applications for assistance were received from two widows, and grants were made to them in accordance with the rules of the Society. Two new members were elected, and proposals of membership accepted from three candidates.

Correspondence.

"Audi alteram partem."

MR. GAMGEE'S REPORT ON ANTISEPTIC SURGERY.

To the Editor of THE LANCET.

SIR,—Scientific and professional controversies are so to become personal, to the common detriment of truth and friendship, that I shall say very few words on Professor Lister's note in your current issue. At my request, your printer sent him proofs of my two articles on the antiseptic system. The first proof was returned to me with several corrections, all of which I accepted and sent on to your printer, who faithfully incorporated them. The second proof (now before me, with covering envelope) was returned without a correction, and with this brief note:—"Nothing to suggest as to matters of fact. In great haste.—J. L."

In revising the second proof, the only material alteration I made, containing one of the passages objected to by Mr. Lister, was the following:—"In fact what is wanted is a thorough scientific examination of the whole question (the treatment of wounds), discarding the fatal bias of a fixed theoretical preoccupation, and only striving to collect, co-ordinate, and digest the facts on which alone a comprehensive and sound judgment can be pronounced." Is this bringing a personal charge, or affirming, in the broadest terms, a real want of cotemporary scientific surgery?

My second article (THE LANCET, Jan. 10th), concluded with a plea in extenuation for the freedom of unconventional, yet most kindly intentioned, utterance; and, having nothing to retract, I still rely on generous men accepting that plea in the spirit in which, as the whole context proves, it was proffered by,

Your obedient servant,

Birmingham, Jan. 17th, 1873. SAMPSON GAMGEE.

CLOSING OF THE OUT-PATIENT DEPARTMENT OF THE GREAT NORTHERN HOSPITAL.

To the Editor of THE LANCET.

SIR,—Referring to your notice in THE LANCET of the 3rd instant relative to the closing of the out-patient department of this hospital, I beg leave herewith to enclose a copy of an announcement which is, by order of the Executive Committee, about to be inserted in the newspapers.

I would add that the committee, in taking the measure above referred to, have, to a great extent, been impelled to do so by the acknowledged abuse of medical out-patient relief as at present administered, and contemplate re-opening the closed departments with such rules as may at least in some measure remedy the evils attending the present system.

Requesting that you will favour me by inserting this letter in the next issue of your paper,

I am, Sir, your obedient servant,

ALFRED PHILLIPS, Major, Secretary.

The Great Northern Hospital, Caledonian-road, N.,
January 16th, 1874.

GREAT NORTHERN HOSPITAL, CALEDONIAN-ROAD.

NOTICE.—*Closing of the Out-patients' Department.*—The Executive Committee hereby give notice that since the publication of their report for the official year ending June 30th, 1873, they have been compelled to close temporarily the greater portion of the out-patients' department of this hospital for the following reasons:—

(*a*) That the expenses of this hospital so seriously exceed the amount of annual subscriptions to be depended upon, that, having regard to the especial claims of the in-patients' wards, the proper maintenance of which they conceive to be their first duty, they consider, in the present state of the charity's finances, they would not be justified in keeping open the out-patients' department at the expense of being compelled to close one of the wards.

(*b*) They feel very strongly with those who consider that the out-patient department of hospitals, as conducted at present, is an absolute source of weakness to their efficient

administration, and most undoubtedly holds out positive incentives to people to apply for gratuitous relief who are well able to pay for it. Such patients certainly do not merit being prescribed for at the expense of the efficiency of the in-patient department, for which especially the assistance of the public is solicited.

(*c*) That as several provident dispensaries exist in the immediate neighbourhood of the hospital, the effects of the closing will not be materially felt.

(*d*) That it is hoped a considerable saving will accrue which will enable them to reorganise and reopen the department on a basis which they trust will be appreciated by the public.

The following departments of the out-patient portion of the institution still remain open:—Diseases of Women and Children, Ophthalmic, Dental, and Vaccination.

By order of the Executive Committee,

Jan. 19th, 1874. ALFRED PHILLIPS, Major, Secretary.

*** The above letter is scarcely satisfactory to us. The authorities of the hospital should either have gone further or not so far. They seem undecided as to the future, and undecided as to the kind of excuse which they shall rely on for the unprecedented proceeding of closing the out-patient department. Firstly, it is a merely financial question, though the *Westminster Review* would assure them that the benevolent are so eager to give money to hospitals that they give demoralisingly and too much. Then, it is a question of rebuking those who abuse the out-patient department. But it is hard to make the needy suffer for the sins of the well-to-do. The fact that improper cases take advantage of the department is a reason for rejecting such cases, but not for closing the department. There is yet a further anomaly—people with bad teeth or sore eyes are still to be treated gratuitously, while the most rigid economics are to be applied to people with the more common, and far the more serious and impoverishing, diseases. Can there be any justification for drawing a man's tooth gratuitously and refusing to treat gratuitously an ulcer of his leg or a catarrh of his bronchial tubes? We do not see that a great hospital can fulfil its functions without an out-door department. There is no excuse for admitting improper cases, or for doing the work badly. There is equally no excuse for closing the department except so far as may supply a *clinique* to a few special practitioners. This looks rather as if a hospital existed for specialists than for the public and the profession at large.—ED. L.

THE TOPICAL USE OF PERCHLORIDE OF IRON IN POST-PARTUM HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—In your last number there appears the following annotation:—"A foreign contemporary records a fatal instance of the use of a uterine injection of perchloride of iron. Peritonitis supervened soon after administration, and death occurred in thirty hours."

Will you permit me to say that a record so brief does not satisfy the requisites of a scientific clinical observation. It is essential to know—1. The condition of the patient before the injection was made. 2. The strength, quantity, and mode of the injection. 3. The history of the symptoms following the injection; and, if possible, the appearances found on post-mortem examination.

Two at least of the deaths recorded have followed the use of a concentrated or caustic solution of perchloride of iron, instead of a diluted or simply styptic solution.

I am, Sir, yours &c.,

Grosvenor-street, Jan. 1874. ROBERT BARNES.

TORSION IN SURGERY.

To the Editor of THE LANCET.

SIR,—The success that has attended the use of torsion in surgically divided vessels in stumps &c. at the Leeds General Infirmary, and also at Guy's Hospital, has suggested to my mind the advisability of extending it to the treatment of wounds of vessels in their continuity, and of aneurisms.

These are the modes which I propose for its employment. In the case of wounded vessels, if completely divided, let the wound in the surrounding tissues be enlarged, if necessary, and the proximal and distal ends of the artery be torsioned in the usual way. If, however, the wound be merely a puncture, after the enlargement of the wound in the neighbouring tissues, and before the employment of the torsion, let the vessel be divided by the surgeon through the site of its wound. In cases of aneurism, let the circulation through the part be controlled by the application of a tourniquet or an assistant's fingers, and the necessary dissections be made for laying bare the artery; then let it be severed by the surgeon's knife, and the proximal and distal ends be secured as in the above cases. The vessels are thus ligatured, not by a dead foreign body, but by their own living though bruised tissue. I am impressed with the special applicability of this method to wounds of vessels otherwise healthy, and to traumatic aneurisms.

I have the honour to be, Sir, your obedient servant,

GEORGE LONGBOTHAM, M.R.C.S. Eng.

Park-square, Leeds, Dec. 22nd, 1873.

N.B.—The further steps in the above operations would be the same as those in the ordinary operation for applying a ligature.

THE CORONER FOR THE LIBERTY OF BURY ST. EDMUNDS.

To the Editor of THE LANCET.

SIR,—Since the "extraordinary instructions" issued by the coroner for this neighbourhood, which you commented on some months ago, inquests are very rarely held here, and cases are constantly occurring where the attempt is made to make the medical men take the place of the coroner, and this attempt is too often successful. For instance, on Christmas day I was sent for to see a woman who had only arrived from London on the previous day on a visit to her mother. She was taken suddenly ill with a pain in the head—in fact, exclaimed "Oh, my head!" twice, and died. She was thirty-six years of age, and had not been ill for two years. I refused to give a certificate of death, but another medical man who was sent for, and arrived some hours after me, has written a certificate in the usual form, he never having seen her alive, and gives the cause of death as apoplexy. Ought this to be done?

This morning I am informed of the death of a child, six years of age, who had sickness and diarrhœa all yesterday, and died this morning, without having been seen by a medical man. I have again been asked to give a certificate, which I have refused to do. The registrar, I hear, will register the death. Will you kindly give me your opinion in your next number of this way of avoiding coroner's inquests.

In the article commenting on the instructions issued you spoke of Mr. Partridge as coroner for Bury St. Edmunds; he is coroner for the Liberty of Bury St. Edmunds, which includes a large district.

I am Sir, yours truly,

ROBERT E. JONES.

Long Melford, Suffolk, December 30th, 1873.

*** We need scarcely say that we regard inquests as necessary in such cases; and regret that medical men should certify the cause of death without having either seen the deceased during life, or holding a post-mortem examination, or satisfying themselves by proper evidence on the subject.—ED. L.

THE VALUE OF EUROPEAN LIFE IN INDIA.

To the Editor of THE LANCET.

SIR,—There are two or three press errors in your rendering of my letter of the 13th inst., which so materially affect my meaning that I crave your indulgence to permit me to correct them in a more formal manner than in a list of errata, which is seldom referred to, and is always liable to escape observation.

In line 15, for "the service," read *science;* in line 27, for "perferendæ," read *perpendo;* and in line 31 of the second column, for "very rarely," read *invariably* or *necessarily.*

I am, Sir, yours faithfully,

Ashenden, Jan. 19th, 1874. F. J. MOUAT, M.D.

PARIS.

(From our own Correspondent.)

ON Tuesday last Professors Tardieu and Robin brought before the Academy of Medicine an account of their medical visit to the two-headed nightingale. They had met, they said, with much difficulty in carrying out the object of their visit. A *sage-femme,* or matron, who constantly attends Millie-Christine, incited them to resist all examination, and the professors had to exhibit their written order from the Prefect of Police before obtaining their consent to strip to the waist. Any more particular examination was stoutly denied. Consequently they considered the results of their visit to be incomplete. They had, however, gathered some interesting facts. There existed two hearts, the beatings of which were not isochronous; the same remark applied to the radial pulse; and yet synchronism of the pulse was to be stated in the four lower limbs. There existed two wills and two intellects; and of this Professor Tardieu said he had had a characteristic proof. Acceding to his urgent request, one of these intellects had consented to allow him to examine the organs seated in the lower pelvis, which the other intellect refused, with expressions of anger and dissatisfaction. Beyond the waist they knew nothing, except what they had learned from the *sage-femme* present—namely, that the two beings were linked together by the same sacrum, and that there existed only one vulvar orifice and but one anus. Menstruation was the same for both, so also were defecation and micturition. Professor Broca, who was present at the meeting, and afforded some anthropological remarks on the subject, added that he thought there were two urethræ, two clitores, and two uteri. The nose and lips were characteristic of the negro race, but not the hair, which was smooth and straight. Their gait was graceful, and the feelings of decency and propriety which they showed seemed quite sincere, and the result of a thoroughly religious education. The lower limbs were of unequal length and development. Tactile sensibility and impressions, which were quite distinct in the upper limbs, were confused and mixed up in the lower ones, so that on touching one of the twins the two perceived it more or less distinctly. They could never be separated; and one might continue to live whilst the other was dead.

The "solemn" annual sitting of the Society of Surgery took place on Wednesday, the 14th inst. The attendance was so large that a great many visitors could not penetrate into the hall, and were compelled to wait in the lobby and various entrances. Some of the seats amongst the members' benches were occupied by the family of the regretted Prof. Denonvilliers, whose éloge or panegyric was read by Dr. Guyon, and formed the most attractive part of the day's proceedings. M. Trélat, the president, opened the programme by a short speech, in which a just tribute of regret was paid to departed members, a public welcome given to new ones, and thanks returned to benefactors of the Society, the moral and material position of which, he said, was most prosperous. The widow of the late Dr. Huguier, imitating the example of Madame Laborie, had given the Society the means of instituting a new annual prize of Surgery worth forty pounds. Another prize, for double that amount, had also been instituted by the brother of Gerdy. M. Tillaux, the secretary, next gave a descriptive and most successful account of the labours and transactions of the Society during the past year.

The Bordeaux branch of the French Association for the Advancement of Science seem to be thoroughly alive to the numerous practical advantages which may be derived from this new institution. They have now completely organised their "regional group," and the sittings take place regularly every Monday. There are sittings of the special sections and general meetings, besides those of the sections united. Questions of interest for the region are specially discussed. Some of them are very important, and will no doubt derive some elucidation from frequent ventilation and discussion, all the competent men on the various subjects, whether members or not of the Association, being convened to the meetings. Amongst the subjects now under debate are "Phylloxera, its ravages among the Gironde vineyards, and means of destroying it;" "Analysis of the arable land of the department;" "Study of the natural advantages of the department for the purposes of national defence," &c.

An interesting case of accidental poisoning through the mistake of a chemist has just been tried at the Court of Law of Nancy, and the damages granted to the relatives of the unfortunate victim have been unusually heavy. A hardware man at Verdun, suffering from slight inflammation of the foot, was ordered by his doctor to take some sulphovinate of soda. The same evening he died amidst the most violent suffering. It was found out that the chemist had sent him acetate of baryta instead of the drug prescribed. The mistake originated in the fact that the two bottles were wrongly labelled by the head preparator in the drug manufactory of M. Casthelay, who supplied the chemist at Verdun. The question of the responsibility of the several parties concerned was the chief matter investigated by the judges, and they awarded 21,000 francs damages (£840), M. Casthelay to pay 9000 francs, the head preparator (M. Coueffin), and the chemist at Verdun 3000.

In one of my recent letters I mentioned that Dr. Brochard and Dr. Monod, whose names are so well known here in connexion with the subject of infant mortality, had been called upon to communicate the results of their extensive experience to the Parliamentary committee for the protection of childhood, who are now engaged in framing a code of laws on this important question. It appears that the members have been most deeply impressed by the statistical figures of infant mortality brought before them by these two medical men—namely, from 11 to 70 per cent., according to various French departments. These figures present a wide difference from those officially furnished by the prefectoral and municipal authorities. Several of the members present, and who had investigated the question, testified, however, to their perfect authenticity.

In one of the last numbers of the *Journal Officiel* appeared a startling medical communication, a short notice of which will be certainly of interest to your readers, should it not have reached them already through some other source. It runs thus:—"On December 31st, Professor Billroth, performed in Vienna a most interesting operation, to wit, total extirpation of the larynx and epiglottis, an operation which had never yet been attempted, although numerous experiments conducted with extreme care a few years ago, had shown that both anatomically and physiologically it was perfectly practicable. In this case the question was how to save the life of a robust individual, aged forty years, whose larynx was the seat of carcinomatous growths which it was impossible to destroy. The patient underwent the operation perfectly well; he now breathes easily and directly through the trachea, into which a canula has been introduced. The fever lasted only a short time. The wound is closing rapidly and healing up beautifully. Professor Billroth is now investigating the question whether it might not be possible to restore speech to the patient by means of an india-rubber larynx. Preliminary experiments with this object are being practised on large dogs."

A most distinguished provincial professor, Dr. Chrestien, of Montpellier, has just departed this life at a comparatively early age. His name is well known in the medical annals of the South of France. Besides his clinical teaching, he had gained distinction through the publication of various valuable papers. He was the nephew of the renowned therapeutist of the same name who introduced the use of preparations of gold into French practice.

The *Recueil de Médecine Vétérinaire* publishes some interesting statistical details on the present state of veterinary studies in France. There exist three schools of Veterinary Surgery, one quite near here, at Alfort, the second at Lyons, and the third at Toulouse. They include a total number of 665 students, 40 of whom belong to the army, and are supported by Government. Among the total number are 238 students the expenses of whom are half paid either by the Government or provincial departments. The cost of the three schools to the Government is about 663,000 francs annually, but as their receipts amount to 298,000 francs,

the cost is in reality only about half that sum. To wind up, the *Recueil* states that the present state of the three Veterinary Schools is most flourishing, and that they maintain their high reputation.

Paris, Jan. 20th, 1874.

Obituary.

GEORGE BEAMAN, M.D.

THERE passed away, on the 15th inst., at a green old age, in the person of Dr. Beaman, a member of our profession who, at one period, was a prominent man in its ranks, and who may be looked upon as being about the last of the well-known class of the general practitioners of a bygone generation. Born about the commencement of the century, the subject of this notice was placed at the proper period under the care of Mr. Holland, the father of the late Sir Henry Holland. After his pupilage he entered the united schools of Guy's and St. Thomas's Hospitals, where he soon gained the favour of Sir Astley Cooper, who was extremely kind to Beaman, he having the great advantage of being constantly associated with this illustrious surgeon. Subsequently he became attached to the Webb-street School of Anatomy, and acted for some time as demonstrator to Mr. Grainger.

Turning his views towards practice, he at a very early age entered into partnership with the late Mr. Hewson, and settled in the neighbourhood of Covent-garden, where he remained, so far as his professional residence was concerned, nearly the whole of his life. In course of time Beaman's active industry was rewarded, for when left alone in the business, and at the height of his career, his practice was very remunerative, at one time amounting to between three and four thousand pounds in a year. This was at a period when numerous wealthy and well-to-do business men and tradesmen lived in the Strand and in the neighbourhood of Covent-garden, and when the great hotels in this situation were filled with travellers from the country; Beaman attended at most of them.

During this period of his active practice he was thrown into intimate and constant association with the most prominent of the distinguished men who adorned the profession at that time. He was intimate with Sir Astley Cooper, Sir Benjamin Brodie, Dr. Bright, Sir Charles Clark, Bransby Cooper, and Frederick Tyrrell, not only professionally but socially, for he was a devoted disciple of Walton, and with some of these, especially Clark, Bransby Cooper, and Tyrrell, he used to slip away from work and make piscatorial excursions for days together.

It was most interesting to hear the numerous anecdotes which Dr. Beaman was in the habit of narrating in reference to these distinguished men. As before stated, even when he was a pupil he was more than ordinarily intimate with Sir Astley Cooper, who gave him the *entrée* of his house, where there was, to use a familiar expression, a knife and fork available for him almost on any occasion. With Sir Charles Clark also he was on the closest terms of intimacy, and often has the writer of this notice heard from the subject of it anecdotes which showed the wonderful sagacity which marked Clark both as a physician and a member of society. With Tyrrell he was also especially intimate, and the anecdotes he could relate of him showed that he was as skilled in the use of the fly-rod as he was in wielding the scalpel. Of Sir Charles Bell he used to relate that his work on the "Hand" was almost entirely composed on his fishing excursions; and as regards the surgical character of Tyrrell, who, as is well known, was a splendid operator, and Sir Astley Cooper's appreciation of it, the latter made use of the following words to Beaman:—"I have such an estimate of Tyrrell's coolness and courage that if an earthquake were to occur whilst engaged in the middle of a surgical operation I believe he would remain unmoved."

At a very early period in his career Beaman passed some time in Paris, and made the acquaintance of Civiale just as he was introducing lithotrity, and we believe he was the first English surgeon who saw Civiale perform lithotrity. A patient of his now living was also one of the earliest of Baron Heurteloup's, being operated upon by him after the old-fashioned style with success. Dr. Beaman had always the most inveterate objection to lithotrity, and whenever any private or public occasion occurred did not hesitate to express his opinion in the most decided manner against it. Probably this strong feeling was partly excited by the rough and inefficient measures which he witnessed at this time.

Dr. Beaman was for many years very intimate with the late Mr. Wakley, and was associated with him in the formation of the new Equitable Insurance Company, of which he was vice-chairman.

Soon after the formation of the South Western Railway Dr. Beaman became its medical officer; he was also appointed many years ago medical officer to the Board of Inland Revenue, and, in conjunction with his partner, Dr. Vine, he held both these appointments at the time of his death.

During the railway mania Dr. Beaman, unfortunately, became involved to the amount of many thousands of pounds. It is only a few months since the last payment of this great debt was paid.

Dr. Beaman had of late years gradually disappeared from much intercourse with the profession. His public duties took up much of his time, and some few years since he became greatly interested to the study of epilepsy, in consequence of one of his children having been a severe sufferer from this malady. After numerous experiments he came to the conclusion that he had almost discovered a remedy for this disease in the association of several medicines of considerable power, although probably, in his enthusiasm and anxious desire to conquer so dire a disease, he may have somewhat over-rated the power of the means he employed.

It is not surprising that Dr. Beaman was at one time so successful and doing so large a practice, for there were in him all the elements of success. He had a thorough knowledge, not only of his profession, but of dealing with his patients. In the prime of life, and even far beyond his prime, he was a remarkably handsome man. He had great energy and determination; yet his manner in a sick room was most gentle and sympathising, though free from the humbug which is sometimes considered as the necessary part of a successful general practitioner. It has been said of him that "Beaman's manners were so inspiring and engaging that no one had a chance with him for a patient if he were in the way."

His acuteness was well shown on the occasion of the murder of the Italian boy. Beaman was officer to the Strand Union, and, together with Mr. Partridge and others, was present at the post-mortem examination. When nearly the whole of the principal organs had been examined, and nothing was found to account for death, Beaman, feeling sure that the boy had been foully dealt with, suggested that the spinal column should be carefully examined, and there was found the injury causing the poor boy's death.

Dr. Beaman had been gradually declining in health for about two years, but was enabled to attend to business until about a month since. He was, however, only confined to his bed for two days before his death, when he quietly passed away without suffering or pain. Although he outlived most of his contemporaries, there are many survivors who will affectionately regard the memory of one of the most genial and kind-hearted men who have belonged to the profession.

PETER ALLEN, M.D., F.R.C.S. EDIN.

IT is with deep regret that we have to record the death of Dr. Peter Allen, of Harley-street, one of the most promising aural surgeons of the day. Dr. Allen came of a Kentish family, and was born in December of the year 1826. He had consequently just entered his forty-eighth year. His professional studies were pursued in London as a resident articled pupil of the late Mr. George Pilcher, of Great George-street, Westminster, and he was also articled to the College of Surgeons. At St. George's Hospital School he gained on several occasions high honours; notably in 1847–48, the "clinical prize" for reports, &c., under the characteristic motto, "Labor ipse voluptas," and the first prize in surgery in the previous session, 1846–47. After obtaining his M.D. degree and the other qualifications of M.R.C.S. and L.S.A., he entered upon country town practice in the West of England (at Bridport)

in 1849, and remained there until 1855, when he gave it up and entered the army, going to the Crimea in August of that year.

After some months in the Crimea (where, as everywhere, his marvellous energy and wonderful power of usefulness were appreciated), his health broke down, and he was invalided to Scutari and subsequently home, after severe suffering from rheumatism and jaundice. After the peace, in 1856, he once more entered country practice, this time in the north of England, at Yealand Conyers, a beautiful village near Lancaster. There he remained, leading a laborious but bright and pleasant life, and held in high value by a large circle of friends for nearly twelve years, during which time he had very much more than doubled the income of the practice.

During the whole of this and the former periods or divisions of his work, he had not ceased to pay special attention, whenever opportunity occurred, to the department of medical science in which he has since laboured so successfully, and which he had steadily kept in view ever since his early studies with Mr. Pilcher.

It was in September, 1868, that he finally carried out a long-cherished project of removing to London, there to devote himself to aural surgery. In April of the following year, 1869, he entered into arrangements to assist and (possibly) succeed the late Dr. Yearsley, who had, from nearly the very first acquaintance with him, followed him up with a singular persistence. Within less than three months the death of Dr. Yearsley, who had fallen into extreme ill-health many weeks earlier, placed him entirely alone. Some important contributions to his chosen subject—namely, the Functions of the Middle and Internal Ear—appeared from his pen in THE LANCET during the early months of 1869. In September of the same year, exactly twelve months after his first arrival in London, he was appointed Aural Surgeon to St. Mary's Hospital.

In the summer of 1870 many of his lectures were delivered at St. Mary's Hospital, which were during the ensuing winter (January, 1871) published in a collected form under the title of "Aural Catarrh, or some of the commonest forms of Deafness, and their Cure." These lectures met with considerable success; they have now been some time out of print, and he was labouring strenuously at the preparation of a second edition when struck with mortal illness.

He was an able and intelligent practitioner, and had made some improvements in his art, notably by modifying Politzer's injecting-bag. Courteous and upright in his demeanour, and enthusiastic in the pursuit of knowledge, there seemed every probability of Dr. Allen's gaining a high position, and doing much to rescue aural surgery from the hands of quacks. On this ground, no less than upon others more personal, his premature decease is greatly to be deplored, the more so as not one moment of his fame or success has been purchased at the cost, or even at the risk, of truth or honesty in word or deed.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. — The following gentlemen, having passed the required examinations for the diploma, were duly admitted Members of the College on Tuesday and Wednesday last:—

Andrew, George, Plympton, Devon.
Baker, Benjamin R., Andover, Hants.
Bennett, Henry S., Finsbury-square.
Bubb, Benjamin, Cheltenham.
Campbell, William M., M.D., Liverpool.
Crowther, Arthur Bingham, L.S.A., Hobart Town.
Duran, Charles, Costa Rica.
Edwards, Octavius, Hereford.
Harrison, Charles E., Upper Norwood.
Harris, Vincent D., Bristol.
Hartley, Robert, L.R.C.P., Lytham, Lancashire.
Hebb, Richard G., Newton Valence.
Hooper, Alfred, Burton-on-Trent.
Ilott, Herbert J., Bromley, Kent.
Johnson, John James, L.R.C.P., Newcastle-on-Tyne.
Lloyd, John D., L.R.C.P., Hillsey, near Wotton-under-Edge.
Lucas, Henry O., Highgate.
Maclean, Thomas E., Notting-hill.
Medcalf, Ernest S., L.S.A., Ware, Herts.
Müller, Augustus, L.S.A., Amoy.
Paley, William E., Peterborough.
Parrott, Joseph, Camberwell-road.
Pike, Joseph B., Leicester.
Saberton, Frederic, L.S.A., Ely, Cambs.
Sawtell, Tom H., Adelaide, South Australia.
Schäfer, Edward A., Highgate.
Seaton, John J. J., Sunbury, Middlesex.
Smith, William, L.R.C.P., Ashton-under-Lyne.
Stevens, Alfred F., Stoke Newington.
Stewart, Robert W., L.R.C.P., Stoke, Devonport.
Sutcliffe, E. C. T., Stalybridge.
Talbot, Joseph B., Brierley-hill.
Thomas, Herbert H., Hebden-bridge.
Thompson, Thomas W., Tavistock-square.
Ward, Lloyd Brereton, L.R.C.P., St. John's-wood.
Wilkins, James S., L.R.C.P., Guy's Hospital.

[In the last line of the list of gentlemen who passed the Primary Examination at the College last week, page 111, for "S. T. Fairhend" read "S. T. Fairland."]

APOTHECARIES' HALL. — The following gentleman passed his examination in the Science and Practice of Medicine, and received a certificate to practise, on Jan. 15th:—

Elliott, Frederick Hawes, Andover, Hants.

The following gentleman on the same day passed his Primary Professional Examination:—

Davey, William Thomas, St. Bartholomew's Hospital.

COLLEGE OF PHYSICIANS, IRELAND.—At examinations recently held the following gentlemen obtained the licences in Medicine and Midwifery:—

MEDICINE.—Martin Edward Bourke, Elliott Sanderson Browne, Rowland John Denny, Richard Nugent Stoker.
MIDWIFERY.—Richard Nugent Stoker, Wallace Williams Lovejoy.

ROYAL FREE HOSPITAL.—Mr. Gant will perform the following operations on Jan. 24th, at two o'clock:—(1) Excision of the knee-joint; (2) for necrosis of ischium.

A TESTIMONIAL was presented on Saturday last to Dr. Richard Wadsworth by the officials of the Shoreditch Workhouse, in the shape of a beautifully-executed portrait, in oil, of himself.

LIVERPOOL MEDICAL INSTITUTION.—At the annual meeting of the members of the Medical Institution, on Jan. 13th, the following council and office-bearers were elected: — President: Mr. McCheane. Vice-Presidents: Mr. T. Shadford Walker and Dr. Davidson. Treasurer: Dr. Oxley. Hon. Secretaries: Dr. Lyster and Dr. Glynn. Hon. Librarian: Dr. William Carter. Other members of the Council: Mr. Puzey, Dr. Caton, Mr. Harrison, Mr. Newton, Mr. Rushton Parker, and Mr. Edgar A. Browne. Microscopical Committee: Dr. Braidwood, Dr. Glynn, Mr. Newton, Dr. William Carter, Mr. D. J. Hamilton, Mr. Rushton Parker, Dr. Caton, and Dr. Davidson.

Medical Appointments.

ALLFREY, C. H., M.D., F.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for District No. 3 of the Bromley Union, Kent, vice Smith, resigned.

BIRCH, R., L.R.C.P.L., M.R.C.S.E., has been appointed House-Surgeon to the Royal Surrey County Hospital, Guildford, vice Warner, resigned.

BLACK, J. R., M.B., C.M., has been appointed Visiting Surgeon and Physician to the Greenock Infirmary, vice Wallace, retired.

BLUNT, T. P., F.C.S., has been appointed Public Analyst for Shrewsbury: £1 1s. per analysis.

BURGE, F. J., M.R.C.S.E., has been appointed Public Analyst for Fulham for one year: 21s. per analysis for first 100, 10s. 6d. per analysis for second 100, and 5s. per analysis beyond.

CAVAFY, J., M.D., M.R.C.P.L., has been appointed an Assistant-Physician to St. George's Hospital, vice Dickinson, resigned.

CHAMBERS, E., M.B., C.M., M.R.C.S.E., has been appointed Visiting Surgeon to the Chester General Infirmary, vice Fleetwood, appointed House-Surgeon.

CRABB, A., M.D., F.R.C.P.Ed., F.R.C.S.E., has been appointed Medical Officer of Health for the Canford and Kinson Sub-District of the Poole Rural Sanitary District: £12 for one year; acreage 12,393; population 3022.

DICKINSON, W. H., M.D., F.R.C.P.L., has been appointed a Physician to St. George's Hospital, vice Fuller, deceased.

DICKINSON, W. W., M.R.C.S.E., has been appointed Medical Officer of Health for the Tiverton Rural Sanitary District for one year: 42s. for each inspection and report; acreage 81 161; population 18,686.

DUNCANSON, J. J. K., M.D., C.M., has been appointed Assistant-Surgeon to the Edinburgh Eye Infirmary.

FLEETWOOD, W. J., L.K.Q.C.P.I., L.R.C.S.I., has been appointed House-Surgeon to the Chester General Infirmary, vice Haining, resigned.

FOX, J. M., M.R.C.S.E., has been appointed Medical Officer of Health for the Workington Port Sanitary District: £20 per annum, and extras.

GEORGE, H., M.D., M.R.C.S.E., has been appointed Medical Officer of Health for the Horncastle Urban Sanitary District: £40 per annum; acreage 1856; population 4865.

HURFORD, C. H., B.A., M.B., has been appointed Assistant Medical Officer to Moorcroft House Asylum, vice Elliott, resigned.

M'DOWALL, J. G., M.B., C.M., has been appointed Assistant Medical Officer to the South Yorkshire Lunatic Asylum, Wadsley, vice Lowe.

MARSHALL, F. J., M.R.C.S.E., has been appointed Resident Registrar and Chloroformist at St. Mary's Hospital, Paddington, vice Knott.

MARTIN, R., M.D., F.R.C.P.L., has been appointed Physician to the Law Life Assurance Company, vice Fuller, deceased.

MORGAN, W. L., L.R.C.P.L., M.R.C.S.E., late House-Surgeon at the London Hospital, has been appointed House-Surgeon to the Radcliffe Infirmary, Oxford.

NEVINS, J. B., M.D., has been appointed an Hon. Consulting Surgeon to the Liverpool Eye and Ear Infirmary.

PARKER, A. J. E., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer of Health for the Hetton-le-Hole Sub-District of the Houghton-le-Spring Rural Sanitary District: £100 per annum; acreage 5436; population 13,564.

PHILLIPS, W. W., M.R.C.S.E., has been elected Surgeon to the Foresters' Club, held at the New-inn, Farnsfield, Notts.

PHILPOTS, E. P., M.D., has been appointed Medical Officer of Health for the Lytchett-Matravers and Lytchett-Minster Sub-District of the Poole Rural Sanitary District: £8 for one year; acreage 6460; population 1615.

PUZEY, C., L.R.C.P.L., M.R.C.S.E., has been appointed a Surgeon to the Liverpool Royal Infirmary Lock Hospital, vice Worthington, appointed Consulting Surgeon.

STEELE, J., M.R.C.S.E., has been appointed Medical Officer of Health for the Ovenden Urban Sanitary District: £50 per annum; acreage 4491; population 8000.

TWEDDELL, G., M.R.C.S.E., has been appointed Medical Officer of Health for the Houghton-le-Spring Sub-District of the Houghton-le-Spring Rural Sanitary District: £70 per annum; acreage 7320; population 9032.

WALKER, J., M.B., L.R.C.S.I., has been appointed Resident House-Surgeon to the Hulme Dispensary, Manchester, vice Adams.

WHITE, E. W., M.R.C.S.E., has been appointed Resident Medical Officer to the St. Marylebone General Dispensary, Welbeck-street, vice Basan, deceased.

WOAKES, E., M.D., M.R.C.S.E., has been appointed Medical Officer of Health for the Luton Rural Sanitary District: £40 per annum; acreage 37,482; population 12,389. Also for the Luton Urban Sanitary District: £40 per annum; population 17,316.

WORTHINGTON, F., M.R.C.S.E., has been appointed Consulting Surgeon to the Lock Hospital, Royal Infirmary, Liverpool, on resigning as Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

BOGGS.—On the 20th inst., at Paris, the wife of Alex. Boggs, M.D., late of H.M.'s Indian Army, of a daughter.

BROOKES.—On the 13th inst., at Kennington-road, the wife of Robt. Chas. Brookes, M.R.C.S.E., of Westminster-bridge-road, of a son.

JACKSON.—On the 19th inst., at Highbury-grove, the wife of H. E. Jackson, M.R.C.S.E., of a daughter.

LOVETT.—On the 17th inst., at Great Russell-street, Bedford-square, the wife of S. R. Lovett, L.R.C.P.Ed., of a daughter.

MOORE.—On the 18th inst., at Grove-park, Chiswick, the wife of E. W. Moore, L.R.C.P.L., of a son.

MARRIAGES.

JAGO—DINNEN.—On the 14th inst., at the Church of St. Cybi, Holyhead, Thomas Jago, M.R.C.S.E., of Barnsbury, London, to Elizabeth Isabella, eldest daughter of W. A. Dinnen, Esq., R.N.

POPHAM—WRIGHT.—On the 13th inst., at Trinity Church, Paddington, Benjamin Francis Popham, M.D., to Margaret Leigh Wright, daughter of the late Rev. Edward C. Wright.

DEATHS.

BARKER.—On the 11th inst., Jane Barker, eldest daughter of Richard Ellis, L.R.C.P.Ed., L.R.C.S.Ed., L.M., of Newcastle-on-Tyne, in the 15th year of her age.

BEATTY.—On the 9th inst., James Beatty, M.R.C.S.E., of Oldbury, aged 53.

BOUSFIELD.—On the 15th inst., E. Bousfield, L.R.C.P.Ed., M.R.C.S.E., of Thetford, aged 35.

BROWN.—On the 18th inst., at Friar's-hill, Guestling, Harvey Gosset Brown, Student at the London Hospital, aged 23.

GIBSON.—On the 13th inst., at Amélie les Bains, Pyrenées Orientales, Chas. Mends Gibson, F.R.C.S.E., of Norwich, aged 65.

LENTON.—On the 17th inst., Chas. Sheppard Lenton, L.S.A.L., of High-street, Peckham.

LEWIS.—On the 15th inst., Dr. Thomas Lewis, of Sumner-place, Onslow-square, late Surgeon 1st Dragoon Guards.

PEET.—On the 18th inst., John Peet, M.D., F.R.C.P.L., of Shanklin, Isle of Wight, retired Surgeon-Major Bombay Army, late Principal, Grant Medical College, Bombay.

SMITH.—On the 15th inst., W. T. Young Smith, L.R.C.P.Ed., of Barnsley.

STOKES.—On the 16th inst., Geo. Stokes, L.R.C.P.Ed., of Norwood-grove, Shiel-park, Liverpool, aged 40.

BOOKS ETC. RECEIVED.

Mr. Simpson: Natural Philosophy.
Dr. Miller: Elements of Chemistry.
Dr. Gordon: Life on the Gold Coast.
Messrs. Burness and Mavor on the Therapeutic Action of Drugs.
Dr. Sieveking: The Medical Adviser in Life Assurance.
Fonssagrive's Hygiène et Assainissement des Villes.
The Medical Directory. 1874.
The Treasury of Botany. Parts I. and II.
The Local Government Directory. 1874.
The Cabinet Lawyer.
Deutsche Militärärztliche Zeitschrift.
The Monthly Review of Dental Surgery.
Daniel's Amateur Gardener's Guide. &c. &c.

Notes, Short Comments, and Answers to Correspondents.

MEAT PRESERVED FOR TWENTY YEARS.

ITALY is at present suffering from the scarcity and dearness of food, and her sense of privation increases with the advance of the season. A week or two ago Bologna was the scene of a monster Famine Meeting to discuss the matter. The military authorities, it seems, have long given rations to the troops in the shape of preserved meat, tins of which served out in the Cimarra Barracks in Rome were believed, but wrongly, to have caused the recent outbreak of cholera in that city. The popular dislike to preserved meat, aggravated as it was by this erroneous assumption, is attempted to be overcome by Professor Comi, who, according to the Roman journals, has invented a process by which meat can be kept for an indefinite time by petrifaction, without casing or covering of any sort. A tongue of an ox was lately served up to a party of *savants*, who relished it exceedingly, and said as much. It had been petrified twenty years ago by Professor Comi, and was softened and stewed *in agro e dolce* before being set on the table. Its nature, taste, and flavour were intact.

L.S.A. London.—The best title is the true one. We trust that ere long an examination may be devised for giving a fuller title to such practitioners as our correspondent.

Dr. Quinlan's (Dublin) lecture shall shortly be published.

PUBLIC HEALTH RETURNS.

To the Editor of THE LANCET.

SIR,—I have been rather astonished at letters which have lately appeared in the medical journals, and more especially at your article of last week, on Public Health Returns.

I am afraid that the general public and many in the profession look on medical officers of health as holding *sinecures*. I maintain that such an appointment is no sinecure, and that it should not be looked on as such. The returns as to pauper sickness and deaths, over which such a fuss is being made, are readily obtained. The medical officer of health has only to attend the meetings of the different Boards of Guardians occasionally, and then and there examine the different district medical officers' report books of sickness. The information there given will enable him to make out this most useful return, and, besides, it will enable him to see at a glance whether there be any contagious or infectious diseases in the union. It is absurd to suppose that these matters will not entail both thought and trouble. I have always found my Sanitary Board willing to assist me in so far as they legally could.

Although advice is generally unpalatable, and seldom taken, I would say to medical officers of health, Carry out the provisions of the Act in the spirit, and don't be too particular as to whether the Legislature overlooked this or that clause in its framing. It is well known that there are few Acts of Parliament so very complete in every particular as to prevent "a coach and four being driven through them."

I am, Sir, yours obediently,
C. J. DENNY,
Medical Officer of Health for the Hartley Wintney
Jan. 14th, 1874. Rural Sanitary Authority.

W. H. M., (Harrow.)—The Intransigentes were so badly off for medical aid during their late defence of Carthagena that almost anybody could get himself made doctor for the asking. One gentleman, according to *The Times* correspondent, who had passed neither "College nor Hall," volunteered his surgical services with the rebels, and might have been made "Medical Inspector-General for Spain" if the insurrection had succeeded. In the Peninsula there is hope for everybody—even for Sangrado!

Dr. Maurice Evans (Cardiff) is thanked. The matter shall receive attention.

MEDICAL OFFICERS' FORAGE.

To the Editor of THE LANCET.

SIR,—In reference to a former letter and an answer to it which appeared in your journal of the 10th inst., I beg you will allow me to occupy a moment of your time for the purpose of explaining that the concession about forage to which you allude is *not* extended to all those medical officers who entered under the Royal Warrant of 1858, but only to those who attained their promotion prior to the date of the late Warrant. But why are the terms of the Warrant under which we entered not strictly kept to all? Why should those who were not promoted until after the date of the Warrant be made to suffer a reduction of pay by the loss of their allowance for forage? I feel sure it only requires a representation of your views on the subject, which I know are favourable to us, to obtain a concession which shall be full and *equal* to all. It is a matter of just or unjust dealing with those who entered with the promise of it, and have lived for fifteen years with the assurance of it on promotion. I remain, Sir, yours faithfully,

January, 1874. FORAGE.

LUNACY IN TURKEY.

RELIGIOUS influences, and not, as with us, the "struggle for existence," are among the main causes of madness in the dominions of the Sultan. According to the statistics of the special hospital of Suleimanié from 1820 to 1864, there were 673 admissions, 532 being males and 141 females. The Caucasian race was represented by 568, the Ethiopian by 81, the Mongolian by 26. 116 could read and write, 50 could read only, while 501 were wholly unlettered. Under the etiological section of the report, religious fanaticism was the cause of lunacy in 254 cases; 7 were ascribed to religious ideas of another kind, classified as "religious scruples"; abuse of opium numbered 20 victims; of haschish, 94; of alcohol, 88; domestic affliction, 127; troubles of different kinds, 15; in 26 the lunacy was hereditary; and insolation caused 61 cases.

THE STEWART INSTITUTION.

DUBLIN possesses an admirable asylum for idiots in this institution, which, founded in 1869, has more than justified the hopes of its patrons. Its first public meeting was held on Thursday, the 15th inst., in Molesworth Hall, when the Managing Committee's Report was read. From this it appears that its merits are so widely appreciated that at least treble the amount of its present subscription-income (£300) would barely suffice for one-half of the applicants for admission. There are no fewer than 5000 of the imbecile and idiot class uncared for in Ireland; and if her people only knew how much can be achieved for such patients, especially if taken in time, there would be no lack of funds for their accommodation and treatment. England has her Earlswood; Scotland has her Larbert; but not till Ireland devotes to the task of furnishing herself with a parallel institution one-half the energy she expends on less worthy objects will her lunacy returns be lightened, and her benevolent resources put on something like an equal footing with those of the sister kingdoms.

Mr. Harry Major, (Berks.)—The matter shall receive attention.

AN OVERLOOKED SOURCE OF BLOOD-SUPPLY FOR TRANSFUSION IN POST-PARTUM HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—Reading the practical remarks of Dr. Highmore upon the above subject, which appeared in your last impression, reminded me of the somewhat curious way in which the same source of blood-supply was indicated to me as a remedy some months since.

In July, 1872, I was summoned to a case of post-partum hæmorrhage, where a midwife had been in attendance. The distance being three miles, I found the woman much exhausted, and had difficulty in restoring her. The husband's mother, who lived near, sometimes acts as a midwife; but, not being on friendly terms with her daughter-in-law, was not present at the confinement. Shortly after this woman had occasion to call upon me, and, whilst talking, alluded to the case. She commented upon the incompetence of the midwife in not having employed any remedies before my arrival, because of course, she said, she might have tied up her joints (which is a common remedy with midwives), and have given her *port wine and nature*. Not liking to appear ignorant, I assented, merely asking the best way of preparing the potion, and was told the best way was to catch some of the discharge passing away from the person, to strain it, mix it with port wine, and give it her to drink. The idea was novel to me, and rather tickled my fancy, so that the circumstance has often recurred to my mind. Perhaps it may have happened to some of your readers to have heard a similar remedy suggested.

Yours faithfully,
Ross, Jan. 19th, 1874. THOMAS JONES, M.D.

ANOTHER MIRACLE.

THERE is something incongruous to a degree in the occurrence of a religious miracle in San Francisco—a city chiefly famous for its revolvers, sherry-cobblers, and faro-banks. We should have thought the inhabitants of that privileged city would have been too busy in gambling and quarrelling to pay any attention to such trifles as winking and bleeding saints. It seems, however, that last spring a young lady living there was visited by the Virgin, who implanted on various parts of her body marks of the crucifixion. "A number of persons were thoroughly convinced of the reality of the miracle, and the case of Miss Collins was the subject of general discussion in San Francisco." A Dr. Short, however, to use a Californian phrase, "blew on" the phenomena by discovering and exposing the fact that the marks were done by Miss Collins's own finger-nails. Miracle-mongers must seek a more genial clime and more torpid people than is found in California.

Dr. Frederick Page is thanked. The former letter did not contain any enclosure.

ONYCHIA.

To the Editor of THE LANCET.

SIR,—I enclose the details of the following case in hopes that it may prove interesting to your readers.

On the 6th instant I was called to see E. T——, widow, aged seventy, residing in the City. She said she was suffering from an ulcer on the right foot. What was my surprise, on asking her to show me her foot, to find on both feet the nails enormously hypertrophied. They resembled the talons of a vulture, or the spurs of a cock. They grew forwards, outwards, and downwards. She has had them all her life, as far as she can recollect. I mentioned the case to a M.B. Lond. He was at first inclined to disbelieve me; but he no sooner saw my patient than his incredulity vanished. I am willing to show the case to any medical man, provided my patient gives her consent.

Yours obediently,
Ludgate-hill, Jan. 19th, 1874. H. DICKSON, M.B., M.C. Edin.

Associate of King's College.—The fee of our correspondent's predecessor is far too small. Half a guinea would be kind to the patient; but a guinea would be more just to the practitioner. Of course circumstances must be considered.

TRANSFUSION.

To the Editor of THE LANCET.

SIR,—Under the above heading the question is raised whether "arterial blood has ever been used for transfusion, or if there is any special objection to its employment." I take the liberty of informing "W. E. H." that Prof. Hueter has made experiments with arterial blood. The results of his experiments are published in Langenbeck's Archiv für Klinische Chirurgie, vol. xii. According to the latest publications on the subject (e. g., Gesellius: Die Transfusion des Blutes, St. Petersburg, 1873), it seems perfectly indifferent whether arterial or venous, defibrinated or undefibrinated, blood be used, and therefore the difficulty of procuring arterial blood (at least human arterial blood) will always prevent this method from becoming universally used.

I remain, Sir, yours truly,
Dresden, Jan. 17th, 1874. R. H. PIERSON, M.D.

M. FERNAND PAPILLON.

FROM time to time we have referred our readers to the *Revue des Deux Mondes* for its excellent articles on nature and life. Their young author is no more, and the touching circumstances in which he met his death were alluded to in the last letter of our Paris correspondent. The articles themselves, however, were collected in time to receive their author's last touches, and constitute an interesting volume, in which he has grouped in methodical order the various questions of natural philosophy and general physiology. His book is in some sort a treatise on the harmonies of force and of matter in the living world. Precision and interest of detail are happily combined in its pages with comprehensiveness of doctrine and expository clearness. As a faithful and vivid reflex of the most recent as well as the most plausible inductions of contemporary science, it will prove of deep and enduring attraction to all students of nature. Its title is, "La Nature et la Vie, faits et doctrines," par M. F. Papillon, and it is published in one vol. 8vo by Didier.

Dr. Sturges is thanked.

AN APPEAL.

To the Editor of THE LANCET.

SIR,—After sixteen years' service as medical officer of the second district of the Barnstaple Union, I was surprised to receive the following letter from the clerk to the guardians.

[COPY.]

Barnstaple, Sept. 27th, 1873.

DEAR SIR,—I am directed by the guardians of the poor of this union to inform you that, inasmuch as you are not qualified as prescribed by the rules and regulations of the Local Government Board, the guardians will not consent to your acting as medical officer of the second district beyond the 29th September. I must remind you that your appointment is an annual one.

Yours truly,
WM. HY. TOLLER, Clerk.

To Mr. J. H. Jackman, Swymbridge, North Devon.

I appeal to you under the circumstances respectfully to lay my case before my brother practitioners, as by the harsh and uncharitable manner in which I have been treated I am thrown entirely on the world, without the least means of future support. I have been a medical practitioner for the last thirty-six years; but only holding a country appointment affords me no opportunity of laying by anything, the salary I have been receiving for so many years being so small that I am now, at the age of seventy-three, with a delicate wife in a weak state of health, left, as it were, *pro formâ pauperis*.

I remain, Sir, yours faithfully,
JNO. HAWKES JACKMAN.
Swymbridge, Barnstaple, North Devon, Jan. 15th, 1874.

P.S.—Any contribution, however small, will be thankfully received by the Rev. Jno. Russell, Vicar, Swymbridge; Rev. Joseph Reed, Curate; Pyke Nott, Esq., Brydown House, Swymbridge, North Devon; or Geo. Norman, Esq., Dennington, Swymbridge, near Barnstaple, North Devon.

THE UNIVERSITY OF ATHENS.

A CORRESPONDENT of *The Times* draws attention to the signal services for some time rendered by this seat of culture to the communities of the Levant; but points out the deficiencies of its library, particularly in English books. Now, Athens has recently issued a highly creditable edition of Hippocrates, and has given other evidences of her anxiety to publish editions and translations of medical classics, ancient and modern. Is there no Mæcenas among us to make to her medical department a donation similar to that already vouchsafed by munificent Philhellenes to her legal and theological?

HARD CHANCRE AND MERCURY.

To the Editor of THE LANCET.

SIR,—In your report of the debate on this subject at the Hunterian Society my remarks were not quite correctly reported. I did not say that ptyalism was a mistake so much as a misfortune, because it interfered with that extended administration of the remedy which was necessary to the cure of the disease. Moreover, the excessive salivation caused by the abuse of mercury produced a cachexia which complicated the disease without curing it, and gave rise to the idea that mercury was not the proper remedy; and the iodide of potassium, however useful in some other forms of the disease, was ineffectual to cure either this form or the mercurial cachexia. In a word, mercury is, in my opinion, often given in too large or too frequently repeated doses. In the single case I brought forward, the cure was effected without any marked ptyalism, and the four or five drachms of blue-pill there given contrast very favourably with the ineffectual administration of four pounds of iodide of potassium in another case that was mentioned. If, as a rule, the doses of remedies were more carefully regulated according to the constitution of the patient, as well as the nature of the disease, we should have fewer of those violent reactions which have hitherto marked the progress of therapeutics.

Your obedient servant,
Clapton, January, 1874. D. DE BERDT HOVELL.

NAPLES.

PROFESSOR FEDERICO RICCO, who acted as municipal medical officer during the recent cholera epidemic, in a little work on Hygiene, enumerates, among the causes of the insalubrity of Naples, deficiency of pure air; deficiency of water; the public sewers ill-constructed, worse kept, and full of pestilent matter; the subsoil of the entire city transformed into a vast chemical laboratory of deleterious fermentation; defective house accommodation; injurious illuminations of gas; reservoirs of drinking-water in close contiguity to cesspools. The professor's manifesto has had the effect of scaring away many visitors, to the great wrath of the hotel interest, which would readily have concealed the insanitary condition of the city rather than lose customers. Now that the eyes of the Neapolitans are opened to the scarce of their real danger, we hope they will lose no time in setting their house in order.

A CASE OF DIAPHRAGMATIC HERNIA.

A MINER, of Hartlepool, was severely injured in April last by the fall of some of the roof of a coal mine, but recovered in two months' time sufficiently to be able to resume work. At Christmas-time he unwisely took an unusually hearty meal, and suddenly expired, when the post-mortem revealed a diaphragmatic hernia, and a displacement of the stomach into the left thorax. This case has apparently much exercised the local journalists, one of whom remarks sarcastically: "It is, after all, common enough for a man to have only a stomach where his heart ought to be; and such a distortion of the internal arrangements is not found to shorten life much, although it is often accompanied by a tendency to apoplexy"!

Mr. Fergusson McGill's paper shall shortly appear.

SUBCUTANEOUS INJECTION OF MORPHIA.

To the Editor of THE LANCET.

SIR,—In reply to those correspondents who complain of irritation produced by the solutions of acetate and hydrochlorate of morphia when prepared with acetic or hydrochloric acid, and also to others who find the strong solutions of those preparations solidify when they become cold, I recommend to their notice the sulphate of morphia (United States Pharmacopœia). It is readily soluble in water without any addition of acid, and when cold remains liquid. The solution I use contains one-sixth of a grain in two minims, five grains in one drachm of water.

I am, Sir, yours truly,

Maldon, Essex, Jan. 17th, 1874. E. P. GUTTERIDGE, M.R.C.S.E.

A STRANGE WILL.

THE *Illustrated London News* records a most curious will. Dr. Ellerby, a London practitioner, who died in 1827, ordained in his will that his body after death should be carried to the anatomical museum in Aldersgate-street, to be there dissected by Drs. Lawrence, Tyrrell, and Wardop, in order to elucidate the cause of death. After this clause comes the following singular bequest:—

"I bequeath my heart to Mr. W., anatomist; my lungs to Mr. R.: and my brains to Mr. F., in order that they may preserve them from decomposition; and I declare that if these gentlemen shall fail faithfully to execute these my last wishes in this respect I will come—if it should be by any means possible—and torment them until they shall comply."

The gentlemen named—eminent in their day—rightly renounced the legacies left them, and it never appeared that they were, like St. Dunstan and other mediæval saints, tormented by visitations from the other world.

An Old Subscriber.—1, 2, 3. No.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Broadbent, London; Mr. Erichsen, London; Dr. R. Barnes, London; Mr. Bryant, London; Mr. Henry Smith, London; Mr. Lawson Tait, Birmingham; Mr. Teevan, London; Dr. Sutherland, London; Mr. Jabez Hogg, London; Dr. Burney Yeo, London; Dr. Sturges, London; Dr. Frederick Mouat; Captain Shaw, Croydon; Mr. Symer, London; Mr. Gutteridge, Maldon; Dr. Mackintosh, Chesterfield; Rev. Hume-Rothery; Dr. Holden, Sudbury; Mr. Dickson, London; Mr. Alderson; Dr. Welsh, Kinghorn; Mr. Reed, London; Dr. Duncanson, Edinburgh; Mr. Jeffreson, Newcastle; Dr. Jones, Ross; Mr. Coghlan, London; Dr. Lowndes, Liverpool; Messrs. Densham, London; Dr. Gowers, London; Dr. Evans, Cardiff; Mr. Salt, Stafford; Dr. Holles, Dorchester; Mr. Hime, Sheffield; Mr. Denny, Blackwater; Mr. Dawson, North Shields; Dr. Coward, London; Dr. Nicholls, Chelmsford; Dr. Tibbits, London; Dr. Wagstaffe, Swinefleet; Mr. Richardson, New Cross; Mr. Wilson, London; Mr. Jackman, Swymbridge; Dr. Major, Hungerford; Dr. Macrae, Walton; Messrs. Baillière and Co., London; Dr. Wheeler, Berkeley; Dr. Roberts, Cambridge; Mr. Coates, Salisbury; Mr. Wellmore, Stockbridge; Mr. Harris, Birmingham; Rev. C. H. Carlisle, Buxton; Mr. Macpherson, Middlesborough; Dr. Wordsworth, London; Dr. Fenwick, London; Mr. Malins, Birmingham; Mr. Oglesby, Leeds; Mr. Elliot, London; Dr. Ralfe, London; Mr. Owen, London; Mr. James, Jersey City; Dr. Duncan, London; Dr. Boggs, Paris; Dr. Will, Aberdeen; Dr. Downes, Tiverton; Mr. M'Gill, Leeds; Mr. Thomas, Haslingden; Mr. Giles, Coggeshall; Dr. Nichols, Rotherhithe; Mr. Brown, Woolton; Dr. Wood, Maidstone; Mr. Weeks, Dumfries; Mr. Chorlton, Oakfield; Mr. Norrish, Barton-on-Humber; Mr. Grewcock, Nottingham; Mr. Drew, Birmingham; Mr. Price, Barnsley; Mr. Williams, Carwen; Mr. Morgan, London; Mr. Walker, Louth; Mr. Hendry, Liverpool; Mr. Littlejohn, Dundee; Mr. Bellamy, London; Dr. Molony, Clapton; Mr. Morris, Darlington; Dr. Eliot, Carlisle; Mr. Hinks, Clarendon; Mr. Bell, Preston; Mr. Wykes, Shafteabury; Mr. Prowse, Woolton; Mr. Tweddle, Keswick; Dr. Black, Greenock; Mr. Weis, Darlaston; Mr. Barber, Manchester; Mr. Pritchard, Retford; Mr. Parry, Ferndale; Mr. Sergeant, London; Dr. Kitching, York; Mr. Skey, Reading; Mr. Woodman, Deal; Mr. Wills, Crewkerne; Mr. Saunders, Bath; Mr. Ollerhead, Minehead; Dr. Coales, London; Mr. Burgoyne, London; Dr. Hadden, Jersey, U.S.; Mr. Baker, Huntingdon; Mr. Badham, Tewkesbury; Dr. A. Wallace, Tarriff, N.B.; Dr. Wadsworth, London; Mr. Longhurst, Farnham; Mr. Lambert, Edinburgh; Mr. Tomlinson, Maldon; Mr. Menors, Sheffield; Mr. Leckie, Pont-y-pridd; Mr. Hay, Newport; Mr. Thomas, Bristol; Mr. D. Hughes, Brighton; Mr. Morgan, Bishopwearmouth; Dr. Beckitt; Dr. Gairdner, Glasgow; Mr. Barnett, Chicago; Dr. Owen, Birmingham; Mr. Phillips, London; Dr. Groves, Carisbrook; Mr. Allan, Fort William; Mr. Mudford, London; Royal Institution; Forage; Associate of King's College; M.D.; A Young Practitioner, Ashford; Galen; Enquirer; Ajax; &c. &c.

Sheffield Independent, Liverpool Daily Post, Brighton Guardian, Stratford Express, Leeds Mercury, and *Newcastle Daily Post* have been received.

METEOROLOGICAL READINGS

(Taken by Steward's Instruments).

THE LANCET OFFICE, JAN. 22ND, 1874.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall.	Remarks at 8 A.M.
Jan. 16	29·60	S.S.W.	46	48	...	51	46	...	Overcast
„ 17	29·53	W.N.W	37	39	...	43	36	0·09	Overcast
„ 19	29·68	W.S.W	46	48	...	54	41	0·06	Wet
„ 20	29·71	W.S.W	52	53	...	56	45	0·32	Overcast
„ 21	30·16	W.N.W	41	42	...	52	41	...	Fine
„ 22	30·48	S.E.	38	38	...	...	35	...	Foggy

Medical Diary of the Week.

Monday, Jan. 26.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations on the Eye, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
MEDICAL SOCIETY OF LONDON.—8 P.M. Dr. Hughlings Jackson will exhibit a Drawing of Optic Neuritis with good Sight. — Mr. Spencer Watson: "Cases of Neuro-Paralytic Keratitis."—Mr. Sewill, "On a Case of Cleft Palate." — Mr. Pennefather will show Aural Polypi." — Also a Case by Mr. Bloxam.

Tuesday, Jan. 27.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Rutherford, "On Respiration."
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8½ P.M. Mr. Henry Lee, "On a Case of Primary Excision of the Ankle-joint." — Drs. Hennessey and MacLaren, "On Cholera in India." — Mr. John Wood will show two Cases of Ectopia Vesicæ; and Dr. John Harley will again bring forward his Patients treated by Conium for Disorders of Muscular Movement.

Wednesday, Jan. 28.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
CANCER HOSPITAL.—Operations, 3 P.M.

Thursday, Jan. 29.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. P. M. Duncan, "On Palæontology, with reference to Extinct Animals and the Physical Geography of their Time."

Friday, Jan. 30.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—8 P.M. Weekly Evening Meeting.—9 P.M. Sir Julius Benedict, "On Weber and his Times."

Saturday, Jan. 31.

HOSPITAL FOR WOMEN Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. G. Croom Robertson, "On Kant's Critical Philosophy."

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Agent for the Advertising Department in France—

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